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AMERICAN
BEE JOURNAL

46th Year. CHICAGO, ILL., JAN. 4, 1906. No. 1.

MASSACHUSETTS AGRICULTURAL COLLEGE

"The Parting" or Farewell to 1905

BY EUGENE SECOR

Good-bye, Old Year!
I would that you could tarry here.
My heart exclaims, "Old friends are best"—
It holds them dear above the rest.

Good-bye, Old Year!
I say the words with many a fear;
When you are gone another one
Of life's unraveled threads is gone.

Good-bye, Old Year!
Thus some we hold in life most dear
Slip outward through the door, and stay,
Heedless of tears, both you and they.

I'm older now than when you came—
And wiser? Ah, how low my aim!
But wisdom comes through many a sigh—
Old Year, good-bye!

Good-bye, Old Year!
Your lusty rival standeth near;
But I am loth to see you die—
Old Year, good-bye! good-bye!

View of "Washington Apiary" from the North.
One of the Government Apiari s at Washington, D. C.—(See page 6.)

245

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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(INCORPORATED)

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2. To publish facts about honey, and counteract misrepresentations of the same.

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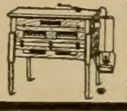

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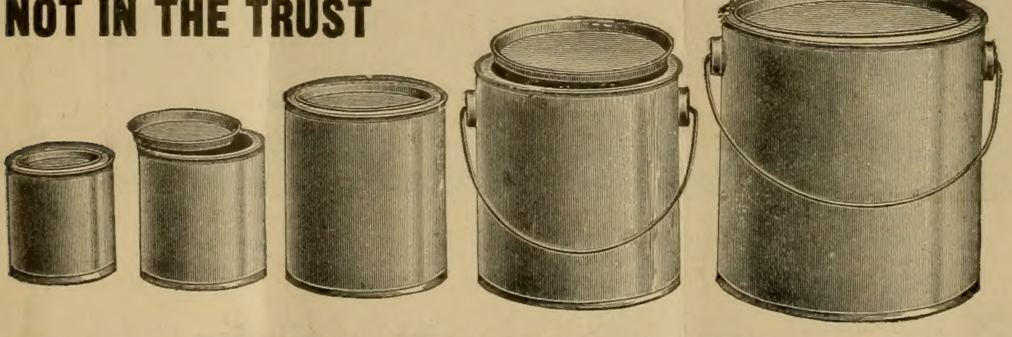

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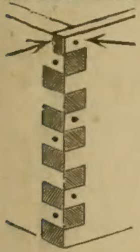

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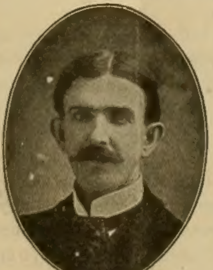

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GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 4, 1906 | Vol. XLVI—No. 1

Editorial Notes and Comments

Position of Winter Hive-Entrances

At the present day nearly all entrances to hives in this country are directly upon the floor or bottom-board. Formerly entrances were higher up, and indeed such entrances are still by no means uncommon in other countries. It is likely that entrances were lowered not so much because better for the bees as because more convenient for the hive-maker.

True, it is easier for the bees to carry out their dead through a low entrance, but it is equally true that it is easier for the low entrance to become clogged in winter. In view of the fact that the chief argument against small entrances is the danger of clogging, may it not be in order to reconsider the advisability of having entrances so low down?

Sugar Cakes for Winter Feeding of Bees

In the Modern Farmer, Editor Emerson T. Abbott gives the following directions for making and feeding sugar cakes to bees in winter:

> We have had a number of inquiries about sugar cakes for bees......We find by inquiry and observation that a great many colonies in this locality are short of stores. The same conditions may prevail elsewhere, and we advise all of our readers to examine their bees at once, as there is sure to be a great fatality among them this winter if they are not properly looked after. Do not try to feed them liquid feed now.
>
> If the bees have been left without looking after them. and making sure they have plenty of food, the best plan of procedure is as follows:
>
> Secure a high grade of granulated sugar. Dissolve the sugar in boiling water, put in as little water as possible, but enough to dissolve the sugar thoroughly and make a thick syrup. This syrup should be boiled, being very careful not to let it burn, as burnt sugar is injurious to bees. Boil the syrup until it will harden and mold into a small cake. By dropping a little of the hot syrup in cold water one can easily tell when it has boiled enough. When the syrup solidifies quickly in the cold water, then proceed to mold it into cakes weighing from 5 to 8 pounds each. This can be done by pouring the syrup into a bread-pan or something of that kind. A cake of sugar that is 5 inches wide and 7 or 8 inches long is about the proper shape for use for winter. The cake should be at least 1½ inches thick; 2 inches would probably be better.
>
> As soon as the weather turns cold and the bees have clustered, carefully remove the honey-board or hive-cover, and lay this cake of sugar directly over the cluster of bees. It is better to put a few short sticks, say ½ inch square, on the frames crosswise before the sugar is put on, and then lay the sugar on the sticks directly over the cluster. Now spread a piece of cloth over the top of the hive and sugar so that it will fit down snugly all around the sides—a piece of old gunny-sack is very good for this purpose. After the cloth is on this may be covered with several thicknesses of newspaper, or, if thought best, the super can be left on and this filled up with dry leaves, or the chaff from oat-straw. After the hive is prepared in this way shut it up and cover it if possible with a store-box or otherwise.

It would seem that with such a simple process of feeding in cold weather, no bees should be allowed to starve during the winter. Often a fairly warm day comes during winter when the hives can be opened up and the sugar cakes put in as directed. It is better that the bees have too much food than not enough. So look well to their supplies, especially when wintered outdoors.

Anti-Swarming Treatment Used by J. E. Crane

On page 773 was given in brief Mr. Crane's plan for preventing swarming, and it is a pleasure to give the following fuller particulars:

> You inquire in regard to the method I have adopted for many years to prevent, or rather control, swarming, as to how long after the old queen is removed before a virgin queen is introduced. I have found the best time to be 2 weeks. If introduced much earlier a swarm is liable to issue; if much later, the queenless colony may not accept her. As a matter of practice, it is usually 16 or 17 days, as I expect and do go over each yard once in 8 days, except when the 8th day is Sunday, when it is 9. Perhaps I may as well say right here that I have practiced this method of controlling swarming for some 25 or 30 years.
>
> I can not give the number or the percent of swarms that issue with virgin queens in this way, but I think they would be few indeed if introduced in 14 or 15 days from the time the colony was made queenless, and the queen was removed at about the time the colony would have swarmed if left to itself.
>
> I commenced giving virgin queens because I found it, with my bees, almost impossible to introduce a laying queen to a colony that had cast a swarm, or had its queen removed when it was preparing to swarm. I can not tell why this is so, as some of my friends seemed to do so without difficulty.
>
> I tried giving a queen-cell nearly ready to hatch, but found a colony receiving it much more inclined to swarm than when given a virgin queen. I have not been able to tell why this is so. I have read, over and over, that if after a colony has swarmed all cells were removed but one there will be no further swarming for that season. With me it seems to be no protection whatever.

I introduce virgins of all ages, from those just hatched to those 2 weeks old, but prefer those 4 or 5 days old. I think a colony is less apt to accept a virgin when 10 days to 2 weeks old. Once I run short of virgin queens of right age and introduced some very old ones, I think 3 weeks old or more. Several of these became fertile and were of some value.

Did you ask how I introduce these virgin queens? Why, I just let them run in at the entrance, and usually all goes well. I have tried daubing them with honey, because some one recommended it, but it worked no better than letting them run in at the entrance.

Now I will volunteer a few facts that may be of value to you and others. The colony is kept a long time queenless, and there may be more pollen stored in the hive than is desirable, and sometimes it may be carried up into the sections, though I am not greatly troubled with it. The greatest objection to this method is the loss of the young virgin queens introduced. When I first adopted this way, some 20 or more years ago. I lost a few queens when introduced at the right age, but of late years the loss has been greater. When I first began, the loss, as I remember it, was not more than 2 or 3 to a yard, while this year in one yard I lost one-third of the virgin queens that I introduced, or 12 out of 36, while in my other yards the loss was light—I think 3 or 4 to the yard.

If the young queen is not laying at my second visit after introducing, I give 2 or 3 combs of brood, and they soon have a queen. Of course, such colonies are not so strong the latter part of the summer, but as we have little for bees to do after July 20, it does not matter.

I would not advise this method as best for all colonies, but for those having poor queens they do not wish to keep, or for those that are weak in numbers. For very strong colonies I prefer to shake on empty combs or foundation, using the brood for helping weak colonies or nuclei into profitable colonies. J. E. CRANE.

Middlebury, Vt., Nov. 8.

Some will undoubtedly question the desirability of having a colony remain queenless 2 weeks or longer. But it must not be forgotten that if bees are left to swarm naturally they are left queenless for a time, and the real loss of brood caused by natural swarming is greater than many have reckoned. That loss must not be reckoned from the date of the prime swarm, for the queen diminishes her laying no little before that time. Then there is no brood emerging in the swarm for 3 full weeks, and in the old colony there is no laying for 10 days or 2 weeks. Mr. Crane's plan saves the expense of a watcher, and no doubt results in a larger harvest.

Detecting Glucose in Honey

In the January number of the Ladies' Home Journal appears an article on how the housekeeper may detect adulterants in various foods, by A. G. Woodman. Referring to honey and some other sweets, he has this to say:

> A common adulterant of honey, table syrups, molasses, jellies and jams is commercial glucose, made on a very large scale by treating corn-starch with acid. It may be detected quite easily by the peculiar precipitate it gives with alcohol. For this test it will be necessary to use strong alcohol—95 percent. Take a clear glass or tumbler about a third full of the alcohol and slowly pour into it a tablespoonful of the honey or syrup to be tested. In the presence of glucose a milky turbidity will be caused, and at the bottom of the glass will be formed a thick, gummy mass, which can be easily collected in a spoon. If glucose is not present a slight flocculent precipitate will be formed instead of the gummy mass, and there will be no turbidity after the test has stood a few moments. It should be borne in mind that the glucose is not to be considered necessarily harmful, but that its presence always indicates a cheaper or low-grade product.

But, really, it isn't necessary in these days to buy honey that is not guaranteed free from glucose or other adulteration. There are many reliable dealers in honey, the purity of which can be relied on. Consumers should insist on getting only the pure article, as there is no excuse for grocers or other retailers buying adulterated food-supplies of any kind.

Miscellaneous News ✧ Items

The National Convention of 1905 is now a matter of history. It was a good convention. There were about 200 present. In the absence of Pres. Harris, Vice-Pres. Dadant (the new President for 1906) presided, and he surprised even his best friends in the able way in which he handled the convention.

A full report of the proceedings will appear in these columns in due time.

Southern Beedom is a new department begun in this week's number of the American Bee Journal. It is in charge of Mr. Louis H. Scholl, late of the Texas Agricultural and Mechanical College. We trust that bee-keepers of the South will aid Mr. Scholl in making their department as helpful as possible to that splendid bee-keeping portion of our country. We desire that it shall be exclusively devoted to the advancement of bee-keeping in the Sunny Southland.

The Government and Apiculture.—On the first page this week is shown one of the apiaries of the Government at Washington, D. C. It shows almost all of the hives. It is located right in the park beside the main building of the Department of Agriculture, which gives it the advantage of having the hives out where everybody who comes near the Department can see them, and also see that something practical is being done with the bees.

DR. E. F. PHILLIPS.

In addition to this apiary there is a Caucasian mating yard at Arlington, where there are located 16 full colonies of bees of that race and 75 mating boxes. It has never had its picture taken as it is not a thing of beauty, but a place where the experimenters really get down and dig out results.

We are pleased to present herewith a picture of Dr. E. F. Phillips, Acting in Charge of Apiculture during the absence of Prof. Benton, who, as most of our readers know, is spending a few months in the Orient, looking up new races of bees and also new honey-plants.

While Dr. Phillips was a student in the University of Pennsylvania he became interested in some of the scientific aspects of bees, and in order that he might do his work more intelligibly, he spent two seasons with The A. I. Root Co. During that time he became more and more interested in practical bee-work, and when the opportunity came he took the place in the Department of Agriculture, where he can do all the work he cares to do without having to think of doing any teaching or any other routine work except that connected with the running of the office.

Birthplace of C. P. Dadant, in Langres, France. (It is the house on the wall, at the right, with a garden.)

In addition to his contributions to some of the bee-periodicals, he has a paper on "Comparative Variability of Drones and Workers," in the Biological Bulletin; "A Review of Parthenogenesis," in the Proceedings of the American Philosophical Society; "The Structure and Development of the Compound Eye of the Bee," in the Proceedings of the Philosophical Academy of Natural Sciences; and a much larger paper on "Variation in Bees," which is not quite completed. Dr. Phillips belongs to some scientific societies, which is to be supposed in one who is so scientifically inclined.

It was our good fortune to have the pleasure of meeting Dr. Phillips at the National convention here in Chicago week before last. He read one of the best papers ever presented before the National Bee-Keepers' Association. Of course it will appear in due time in the proceedings of the convention, and will be read with great interest by bee-keepers.

We think it is fortunate that the Department of Agriculture was able to secure the services of Mr. Phillips, as he seems to be specially adapted to the kind of work that should be done for bee-keepers by the Government. It has been suggested that an effort be made to secure a grant from the Carnegie Institution or Research Fund. Dr. Phillips is not in favor of taking any steps toward getting such grant. He thinks that if everything goes well in the Department of Agriculture there will be plenty of money for breeding experiments. He believes that all that is necessary to get money for work in apiculture is that there should be something to show for it, and he hopes that in the future there will be no difficulty in producing results. He prefers that all breeding work shall be done under the supervision of the Bureau, and does not ask for any aid from the Carnegie people.

Judging from the paper Dr. Phillips read at the National convention, and also from his general character and antecedents, he is the right man in the right place, and we believe that bee-keepers will hear from him in the future in a way that will be very satisfactory to them.

It will be a pleasure for the American Bee Journal to co-operate with Dr. Phillips in the work he is endeavoring to do in the interests of bee-keepers at Washington. Its columns are open at all times for him to lay anything before its readers that he may think of sufficient importance to present to them. Our congratulations are hereby extended to Dr. Phillips upon the magnificent opportunity he has to do some excellent work for the benefit of the bee-keepers of the world, and similar congratulations are extended to the Department of Agriculture upon its good fortune in securing a man like Dr. Phillips to carry on the work begun by Prof. Benton, and which seems to be progressing so favorably during his absence from this country.

Contributed Special Articles

1.—Dadant Methods of Honey-Production

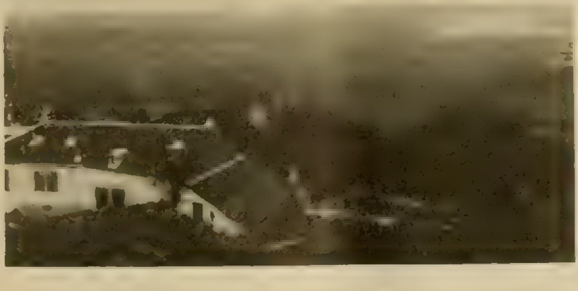
BY C. P. DADANT

President of the National Bee-Keepers' Association.

BEFORE I tell of our present methods in bee-culture, I must first acquaint you with the manner in which we became apiarists, and of our trials before success. Those who have always succeeded are hardly prepared to tell others how to avoid failure, and it is only those who have had ill sucess, or who have seen it close at hand, that can warn others against possible disaster. I believe, also, that he who finds obstacles in his path will become encouraged when he hears how others have met bad luck which they have finally overcome.

My first recollection of bee-keeping is one of disaster. It was in the fifties; I was but a child, living in France, but I can yet clearly remember a dozen or so of Debeauvoy's hives, opened to the wind, and the combs scattered about on the grass. The season had been very early, the blossoms had come, the bees had bred plentifully, and then, in the latter part of May, a hard frost had destroyed the young growth and all the bloom, and my father's bees had starved and the brood had been chilled in the combs. His apiary was located in the country, several miles from the city where we lived, and, lacking in practical experience at that time, my father had not for a moment suspected the possible disaster to the bees, thinking them well provided with honey, so that, at his next visit, he found all dead—bees and brood. So the hives were thrown open and the brood-combs spread on the grass, that the chickens might eat the dead brood before the combs were rendered into wax. His early experiences with bees and the first movable frame hives are narrated in the first years of the American Bee Journal, Vols. III. and IV.

It was in 1863 that we landed in America. I was then 12 years of age. My father's first start in bees was made with two box-hives of common bees, presented to him by a friend in the spring of 1864. He had come to America with nothing but a good education and willing hands, for he had lost all he had in a slump of values caused by the establishing of a railroad which had refused to climb the high cliff on which my native city of Langres is perched—600 feet above the neighboring country—and which built up neighboring towns at the expense of the old fortress city. The place was good for a refuge against the feuds of the middle ages, but it was worthless for the commerce of the Nineteenth Century. The place is now provided with an inclined plane railroad, and is recovering some of its lost prestige. Pardon me if I go into



View over the valley from the birthplace of C. P. Dadant.

details that have nothing to do with bee-culture. It is hard to refrain from reminiscences of old times.

The first thing that my father met, on the subject of bees, after this, was a statement in the American Agriculturist that Moses Quinby had just harvested a crop of 22,000 pounds of comb honey which he had readily sold at 30 cents per pound. This was a revelation of possible success in a line of occupation of which he was fond. So he bought Quinby's "Mysteries of Bee-Keeping Explained," and with the help of a dictionary—for you must remember that he did not know the English language at that time—he began an investigation of the best known methods of bee-culture.

The Quinby hive, like the Langstroth hive, had a hanging frame with a bee-space all around, while the Debeauvoys hive had a tight-fitting frame, which it was impossible to move, after 2 or 3 seasons, without tearing the walls apart, owing to the propolis used by the bees to fill up crevices everywhere. How many new and ingenious inventions in bee-culture have been tried and cast aside because of propolis, with which the inventor had not reckoned! And it is propolis yet to-day which causes us to condemn many useful implements that become almost entirely useless when once coated with it.

The Quinby hive, then, was the one to adopt, but my father was slow to give up the shape of the Debeauvoys hive, which had a frame of about the same size as that of H. A. King—a square frame 12x13 inches—and we therefore made half of our hives with American frames, the other half with Quinby frames.

We very soon had occasion to find what a mistake it is to keep several different kinds of frames in an apiary, especially when that apiary is small, for you cannot exchange frames, hives, supers, or bottom-boards, as you may wish. Let me then urge upon the novice who reads this, the necessity of using only one kind of frame, one size of hive, super, section, etc. The multiplicity of sizes is the curse of the apiary. If you have two or more sizes, or wish to try something new, divide your apiary in two distinct parts, and be sure to have enough in each part to enable you to make exchanges without difficulty. The experimenter will never be a practical producer unless he keeps at least a goodly number of hives of uniform size which have been tested and found practical.

The transferring of bees from the box-hives to the movable frames was a difficult task, and was gone over again and again, for the first seasons were seasons of success, the crops being good, and we invested all the results of the bees' work in more bee-hives, containing common bees—mostly bee-gums of hollow trees that had been found in the woods. The bees had to be transferred to be made profitable.

The supers used at that time were wood and glass boxes holding 5 or 6 pounds of comb honey, with just one auger-hole in the bottom of each box, and 6 of these boxes were arranged on the honey-board of a Quinby hive. The Quinby hive as made then had 8 frames, 10½x18 inches inside measure. Swarming was plentiful and the apiary enlarged rapidly.

At this time, or about 1867, we had one misfortune. We had tried wintering bees indoors, in a very crude cellar—a hole in the ground rather than a cellar—under the log-house which was our home. This had proven satisfactory, but room was wanting and we tried silo wintering with a dozen colonies. This succeeded so well that we buried the entire apiary the following season. But we made the mistake of not making a drain to our ditch. The former winters had been dry, cold, snowy, and such as could be satisfactory for indoor wintering; but that winter was mild and wet. Rain after rain came, the ground hardly froze at all, and when the bees were at last uncovered and taken out, a number of colonies had perished from dampness.

In the cold climate of our Northern States I believe that I would not hesitate to practice silo wintering if I had no cellar. A ditch 3 feet deep, fairly well drained, a few poles over the top, after putting in the hives on two timbers a foot or so from the ground; a lot of straw and earth, sloping enough to act as a roof and shed water, a few air-pipes made of narrow boards, half of them reaching near to the bottom of the pit, the others to the top of the air-space in the trench for ventilation, and the bees may be trusted during a cold winter in a trench of this kind as well as in the best cellar. But in a moist country, where freezing and thawing alternate often, moisture is to be feared, and outdoor wintering should be given the preference.

It took us but one season to recuperate from the losses of that winter. The cause of so prompt a recovery was in the empty combs we had on hand from those dead colonies. We read a great deal about the low cost of combs to the bees. After more or less accurate experiments some bee-keepers have held that 3 pounds of honey would produce one pound of comb. But let two bee-keepers begin again, after a hard winter loss, the one preserving all the good worker-comb, the other melting it into wax and neglecting or refusing to use comb foundation, and results will soon show that *not less* than 7 to 10 pounds of honey must be reckoned as the cost to the bees of a pound of comb.

The cost of the comb lies not only in the actual consumption of honey to produce it, but also in the delay and loss of time to the bees in harvesting, as well as in breeding, when they have to produce the wax and build the comb.

I ascribe a part of our success before the invention of comb foundation to the fact that my father often sent me to buy the combs of the colonies that had died during the winter in our vicinity. Very few people attached to those combs the value that we did, and very few people realize it even now. These combs were carefully sorted, as only the worker-comb was saved and fastened in the frames. Hamilton, Ill.

Preparing in Advance for Next Season

BY G. M. DOOLITTLE.

TALKING with a bee-keeper of a few years' experience—one of those persons who is not so enthusiastic about bees as some of us are—he said that he had his honey all sent off to market and his bees ready for the winter, and then added, "I have bidden the bees good-bye for the next five months, as there is nothing further to do along the bee-line till spring opens in April."

After he had gone I fell to thinking and wondering how many of the readers of the American Bee Journal were managing as this man was. The person who thus reasons and works will surely not make the greatest success in our pursuit.

As soon as the honey is marketed and the bees in winter quarters, the successful man will begin to prepare for the next season, no matter whether that time is November 1, or a few weeks later. I do not mean that he will bend every energy, and work every hour, as hard as he did in June, July and August, but I do mean that he will be as much interested during the winter months as in the summer, and spend much of his time in storing his mind with something useful about the bees, by reading and planning, and at the same time work with his hands by getting ready all the paraphernalia necessary for a successful season, so that he need not have to stop during the hurry of the honey-gathering season to nail up hives, sections, or anything of the kind. In fact, if the mind is engaged through reading and posting up on apiculture, it will be almost impossible to keep the hands from going right to work in the matter.

Get around the back volumes of the American Bee Journal, and any other bee-papers, if you have them, and by the index look up all you can find on the subject of hives, sections, putting in foundation, swarming, artificial increase, prevention of swarming, etc., studying by *subjects*, rather than a promiscuous reading, sticking to *one* subject till you have read everything you can find on that subject in all the papers and books you may have, and until you feel an enthusiasm in the matter that makes you "master of the situation."

Now, if you take Hives as the first study, while you are studying on this matter, get around all the hives you may chance to have and repair them where necessary, and fix them all ready to use at a minute's warning when the season for increase is at hand. And if you do not have as many as you think you will need, make new ones till you are sure no more will be needed during the next summer. Thousands have lost swarms by their going to the woods while the owner was hurrying to get a hive made to put them in, or artificial increase has been delayed till the best part of the season was over, because the hives had to be made before the increase.

Then when the frames are made, and the section matter studied up to your satisfaction and their completion, you will be ready to take up the comb foundation matter, and post yourself on that; finding out how much you will use in the frames, and also in the sections; deciding whether they are to be filled full or contain only starters; and, as you decide, go to work at getting these ready with the desired amount of foundation in each.

I have been censured several times for advising the putting in of foundation during the winter months, those doing this claiming that the foundation should be put in only at the commencement of the season, and using that fresh from the mill, otherwise the bees would not work it to the best advantage. I have put the matter to test again during the past season, using fresh foundation in part of the sections, and that

2. 4. and 5 years old in the others, and alternating these in the same surplus arrangements, and, as in former experiments, I cannot see any difference.

Before bees have access to the sections, I admit that the old looks less inviting than the new, having a cold, hard look, while the new looks much more yellow and soft; but just as soon as the bees cluster on each, the old comes back to its new appearance and pliableness, the bees drawing out and filling each to an extent that, taking the average of the colonies treated, I can see no difference in favor of either. The only old foundation that the bees seem disinclined to work is that which has been on the hives, undrawn, during a period when propolis was being gathered in large quantities, at which times the untouched foundation is often smeared with thin, or almost liquid, propolis, to an extent which makes it look as if it had been varnished. When any foundation has been so treated the bees are very loth to work it, and I have known sections containing such to be left untouched, while those all about them, containing both old and new foundation, were nicely filled.

In studying this matter of sections you will not fail to look up the matter of "bait" sections, for, if you are like me, you will want from 2 to 12 such bait-sections in every surplus arrangement which will go on each hive at the commencement of the honey-flow. I use these baits only to start the bees in the sections, so that one super to each colony you expect to run for comb honey will be sufficient; and thus you will know how many you can use to each hive by dividing your baits by the number of colonies you expect to use for section honey.

If you failed to have the bees clean the honey out of these part-filled sections last fall, and you do not wish to hold them for spring feeding, you can extract the honey out of them at any time during the winter, as the honey must be emptied out of them, for the reason that it will not be likely to correspond with the new white honey that will be stored in them at the beginning of the harvest. To extract this honey best in cold weather, fix a shelf as near the ceiling of your room as possible (as the room is the warmest right up to the overhead wall), putting the part-filled sections on this shelf. Early in the morning start the fire, and keep it going all day, keeping temperature at this shelf as near 100 degrees as possible. By 3 o'clock in the afternoon you will find the honey warm and thin, while the combs will be tough and pliable. You can now extract the sections by putting several in a close-fitting frame, and handling these frames of sections the same as you would a comb for extracted honey. When the honey is out, then you are ready to fill the surplus arrangements ready to be set on the hives at a moment's notice when the honey harvest arrives.

I have been censured for thus advising the use of bait-sections, the claim being made that if we do thus that the little honey left after extracting will granulate, and from this the "seed" for granulation will be left in the cells, so that the honey in baits thus used will granulate much sooner than would be the case were the sections cleaned by the bees in the fall before the honey had a chance to granulate. But after years of careful observation and experimenting, I can only think my critics are mistaken, for such does not hold true with me. I am confident that the bees always clean all cells in which they deposit honey absolutely *clean* before they store any honey therein, and by their so doing all this supposed "seed" is removed so that there are no granulating "germs" left to start granulating. And, as my experience says that the honey in such extracted sections does not granulate any quicker than that in any of the sections containing baits, cleaned by the bees in the fall, as is often recommended, I must be excused for thinking that the ideas of my critics are not well-founded.

And so you will keep on studying and preparing everything you know you will need next year, till you are not only well versed in it all, but have all in readiness in which you are well versed, when you will be fully prepared to meet any and all that may come along during the season, whether that be an extra-good one, a medium, or a poor one. If the latter, being all in readiness will help you to secure much more than you otherwise would in a poor season, as I have proven during the past season in which many bee-keepers about here obtained very small results, while my colonies gave an average yield of 114 pounds of section honey per colony.

If you have never tried preparing as above, this will be in time for you to do so this winter, and in this way you can prove whether Doolittle is right or not. Borodino, N. Y.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Cleaning Unfinished Sections—Black Bees—Finding Queens—Feeding Bees

BY EDWIN BEVINS.

WITH reference to Miss Wilson's inquiry as to why her bees are so plaguey mean about cleaning out unfinished sections, I shall have to reply in the words so familiar to all of the readers of the American Bee Journal in all lands—"I don't know." If I had a lot of bees showing such perversity of disposition I think I would have them hanged, drawn, and quartered.

I will venture a guess, however, as to what is the trouble. Bees will carry down unsealed honey at almost any time, but are very slow to remove the cappings from sealed honey when there is little or no room for storing in the brood-chamber. If, after Miss Wilson had put the first super of unfinished sections on hive No. 32, and had it occupied by the bees, she had taken it off and put on a super filled with empty combs, or combs only partly filled, and then placed the board on that, and the super with the bees on top of the board, I believe results would have been better.

When bees are slow to uncap their honey I use the uncapping-knife. In all my experience, honey, after uncapping, has disappeared very rapidly, unless the weather had become too cool, or the brood-chamber happened to be too nearly filled.

I have 4,000 or more of cleaned-out sections at this writing, and all were cleaned on the hives, without exposure to all of the bees of the yard, and with no great trouble on my part.

My bees, I believe, are a good deal like Dr. Miller's, except in the matter of contrariness about cleaning out unfinished sections. ting with a few black bees about 14 years ago, I have been introducing more or less Italian queens and nuclei into the apiary every year since. The queens have all been from reputable breeders in many States. I have also some bees with queens reared in the yard in colonies doing the best work. The present fall I have purchased and introduced more Italian queens than in any one season before.

UNDESIRABILITY OF BLACK BEES.

Mr. Allen Latham quite recently made, in the American Bee Journal, a strong plea in behalf of the blacks. One circumstance, observed this season, spoke eloquently to me of their undesirableness. The season was a poor one for honey. Starting the season with 140 colonies, and having an increase of 3 by swarming, I have only 120 colonies packed for winter. The lessened number is due to doubling up—doubling the weakest and lightest with stronger and heavier colonies.

In doing this work I found almost invariably the colonies of blackest bees were the lightest in stores. The colonies having most stores had queens of the previous season's rearing, or were strong in Italian blood.

My work of doubling and requeening began about Sept. 22, and did not end till the first of November. I began and ended feeding on the same dates. The feeding ought to have been finished earlier, but having a large number of colonies to feed, and there being a promise in early September of a good fall flow, I delayed feeding in order to save expense. A change in weather conditions destroyed this hope, and it was then that I began an examination of the hives.

In my examinations, whenever I found a hive with bees that showed they were very weak or altogether deficient in Italian blood, the queen was removed and an Italian queen given. There were but few colonies in this condition. The other colonies requeened were strongly hybrid, and the changes were made for various reasons.

FINDING QUEENS IN THE HIVES.

Much has been written on the subject of finding black queens which is all thrown away on me. I cannot endure to spend much time in the search for a queen. My way is to nail a strip of perforated zinc across the entrance of an empty hive, and then set this empty hive in the place of the hive where the queen is that I want to find. Care must be used in cutting the piece of zinc. It is necessary to cut so as to leave a mere thread of metal below the lower row of perforations, so that the metal between the ends of the perforations may not be bent inward or outward. A strip thus prepared is better than an Alley trap, or a swarm-guard, as it makes no place for some of the bees to cluster and thus hinder the entrance of other bees.

When the empty is put on the old stand, I put a wide board in front, propped up so as to be on a level with the top of the alighting-board. Then I have two pieces of board about 20 inches long and 2 or 3 inches wide, which reach out in fan shape from the two front corners of the hive. Then I shake the bees from every comb down on the wide board, knowing that the queen is outside of the prepared hive and cannot get inside without passing through the zinc. It is a short job to find a queen in this way.

On some warm afternoons the past fall it was necessary for me to do the work so late that darkness prevented me from finding the queen until morning. Then I generally found her in a small cluster of bees. When a good many bees mass, and become motionless outside the hive, their entrance can be hastened by stirring them gently with a stick.

I was surprised at the number of queenless colonies I found, and the entire absence of drones in all colonies.

In only one colony have I seen any evidence of supersedure of the queen. At the end of the white honey-flow this colony had brood in but two combs, and these were not full. It was my design to requeen at that time, but observing that there was but little unsealed brood in the combs, and that there was a light-colored queen-cell on the face of one of the combs, open at its lower end, I concluded to wait. Later I found a queen in the hive, and there was a good-sized colony at the end of the season.

Feeding Bees for Winter.

I had to feed about three-fourths of the colonies this fall. The feed was prepared in a common wash-boiler, by first putting in 30 pounds of water, and, when the water had come to a boil, stirring in 60 pounds of granulated sugar and 10 pounds of extracted honey, thus making 100 pounds of feed, minus the loss by evaporation.

I fed in atmospheric feeders, which are most satisfactory for me. They held one quart each, and as many as needed can be put on the hive at once.

The feed was given quite warm, and in order to prevent escape of heat from the brood-chamber, I put an empty hive-body on it, and then put a sack partly filled with chaff on top of the feeder, making the cushion fit snugly to the sides and corners of the hive.

Leon, Iowa.

Convention Proceedings

Report of the Worcester Co., Mass., Conventions

(Continued from page 902.)

Testing the Purity of Beeswax.

"Some of you may ask, How can we detect adulterated wax? Chemical analysis is the surest way, but as I said at the beginning, we are not all chemists; something easier can be used even if it is not absolutely correct.

"There is the float test, or, speaking more exactly, the specific gravity test. Pure beeswax is lighter than water, and most of the adulterants are lighter than beeswax.

"We will first partly fill a jar with water, and in it place a piece of wax that I secured from some burr-comb. As you see, the wax floats. We will now pour into the jar alcohol until the wax just touches the bottom."

He then took a piece of wax purchased at one of the department stores of the city, but this did not touch the bottom, showing that it was lighter than beeswax, and consequently adulterated. Several other samples were also tried.

"Another test is the benzine test, as wax will dissolve in benzine almost as rapidly as sugar will in water. One authority described the test something as follows: 'If the wax is pure the benzine will appear nearly clear—colorless—but if there is an adulterant the benzine will appear cloudy, more or less as per the amount of adulteration, and particles of adulteration will be seen floating around."

Meeting of December 9, 1905.

An apiarian exhibition in Horticultural Hall is what the Worcester County Bee-Keepers' Association decided would be the proper thing. No association or society in the country has ever had an exhibition wholly devoted to bee supplies, appliances, literature, and the like, and the bee-keepers of Worcester County think that such an exhibition would not only be most novel, but one in which people in all sections of the country would be much interested.

People seldom have an opportunity to learn or see anything of bees unless they own a colony, except the small exhibits in connection with agricultural fairs. Then only a few hives are shown, and those, with a few bottles and cakes of honey, comprise the whole exhibit.

For some time bee-keepers have been considering such an exhibition. The matter was brought up, and a committee of five was appointed to find out just what can be done. It consists of Adin A. Hixon, Burton N. Gates, Charles R. Russell, Frank Drake, and Horace P. Jacobs.

For the Worcester Horticultural Society, Secretary Adin A. Hixon offered the association the use of Horticultural Hall for the exhibition, for which the Horticultural Society received a vote of thanks from the bee-keepers.

The exhibition will be on a large scale. Not only will every bee-keeper in Worcester County send everything of interest pertaining to bees that he has, but bee-keepers from all sections of the country, as well as supply houses, publishers of bee-literature and the like, will all want to send an exhibit.

Manufacturers, publishers of bee-books, etc., might find it to their profit to correspond with the secretary in reference to the apiarian exhibit next fall.

The Association met for the first time this winter in Horticultural Hall at 2:30, with President Frank H. Drake in the chair. About 25 members of the Association were present. Secretary Charles R. Russell was not present, and Burton N. Gates acted as secretary pro tem.

At the time that the Secretary sent out notices for the meeting he also asked for information about the number of increase in colonies, average yield of honey per colony, total yield of honey for 1905, number of colonies to go into winter quarters, and whether the bee-keeper had seen any sign of bee-disease. Thirteen or 14 bee-keepers sent in reports, and the first part of the meeting was devoted to these.

In one case one man extracted 200 pounds of honey from one colony, while 460 pounds was the greatest yield for 1905 for any one person. Mrs. Herbert A. Holmes sent in that number of pounds for her total yield for the year, which was considerably above any of the yields reported by the other members. Several claimed 300 to 350 pounds.

From 10 to 30 colonies seemed to be the number to go into winter quarters.

Arthur Monroe talked of his experience as a bee-keeper and how he happened to keep bees. His talk was followed by remarks by Harry C. Shepard, W. W. Jacobs, and Frank H. Drake.

James Wheeler, manager of the White estate, was recommended as a suitable speaker for the Association. Arrangements will be made to secure him as speaker for one of the winter meetings.

The Secretary also announced that Arthur C. Miller, who has spoken before the Association before, had promised to address some meeting. C. R. Russell, *Sec.*

Worcester, Mass.

* * *

The Illinois State Convention

The 15th annual meeting of the Illinois State Bee-Keepers' Association met in the Supervisors' Room in the Court House at Springfield, Nov. 21 and 22, 1905. A fairly good attendance of our most active members was had.

The first session was called to order at 10 a.m., with Pres. Smith in the chair.

The regular order of business was taken up, and the reports of the several committees were read and accepted.

C. P. Dadant moved that the report of the Legislative Committee be adopted and the committee continued. Carried.

Mr. Baxter moved that the Premium List Committee be instructed to ask for a larger premium on designs in beeswax; and Mr. Black amended by asking that the premium on case of amber comb honey be restored. Carried.

On motion of J. E. Johnson, which prevailed, it was ordered that the Executive Committee be instructed to have enough copies of the 5th Annual Report bound in cloth for

all the members of the Association. Mr. Dadant moved that 1000 copies of the next annual report be printed, and as many foul-brood pamphlets for circulation as the committee thought could be used beneficially. Carried.

The Auditing Committee reported on finance, that the accounts of the Treasurer and Secretary balanced to the cent, and it was voted that the account be itemized and printed in the 5th Annual Report. The committee were, C. P. Dadant, S. N. Black and J. W. Bowen.

The election of officers was held on the forenoon of the second day, with the following result: President, J. Q. Smith, of Lincoln, Vice-Presidents: 1st, S. N. Black, of Clayton; 2d, James Poindexter, of Bloomington; 3d, J. W. Bowen, of Jacksonville; 4th, J. E. Johnson, of Williamsfield; 5th, Aaron Coppin, of Wenona; Secretary, Jas. A. Stone, R. 4, Springfield; Treasurer, Chas. Becker, of Pleasant Plains; State Foul Brood Inspector for 1 year, beginning July 1, 1906, J. Q. Smith, of Lincoln.

On motion of Mr. Bowen, the Secretary was voted $50 for his services for the ensuing year, the amount to come out of the funds of the Association.

The Secretary was elected a delegate to represent the State Association at the next meeting of the National, and also the Chicago-Northwestern, railroad fare to be borne by the State Association.

On motion of C.P. Dadant, the Executive Committee was authorized to pay the railroad fares of those who are asked to participate in our future program.

The convention recommended sending out return postals to secure names of bee-keepers, and at the proper time to send out notices of our next meeting to all of them.

A shorthand report of the proceedings will go to make up our 5th Annual Report. JAS. A. STONE, *Sec.*

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

A DEPARTMENT FOR THE SOUTHERN BEE-KEEPER.

The bee-keepers of the South are to be favored with a special corner of their own in a weekly—the American Bee Journal. That means a visit every week for them. Will they appreciate it?

My bee-keeping friends, I have no lengthy remarks to make. This department is to be ours. *Ours*—all of us—and not mine only. Let's make it a valuable one to us. I shall endeavor to do my part. What will *you* do?

BEES CARRYING IN POLLEN.

Our bees have been flying on warm days, with a roar that reminded one of the opening of spring. Some of them were carrying huge loads of new pollen. Mistletoe is our first yielder of both pollen in abundance and some honey. Now, really, I do not know whether to call it the first or the last of the season, but it is the first because it stimulates the bees for the next season's work.

SOME INFORMATION ABOUT SOUTHWEST TEXAS.

Several letters ave been sent me with questions about Southwest Texas, and in regard to information for bee-keeping and other pursuits, and that I answer them through the columns of the American Bee Journal. A goodly number of other letters, also, have been received asking for a personal reply, but as I am "at least quite a busy man," I cannot write to each one separately, hence must refer them to the information given in my articles, in which such information can be imparted not only for the benefit of the inquirers but to others who may be interested as well.

First of all, I should like to refer such interested persons to a copy of the "Texas Almanac." It is gotten out by A. H. Belo & Co., of Dallas, Texas, and will be mailed for 31 cents, postpaid. It will give you more information than anything else I can refer you to just now. There are descriptions of each of the counties of Texas, their soils, water supply, climate, topography, resources, industries and products, and also information concerning population, schools, churches, transportation facilities, etc. Besides the county descriptions there is much other valuable information concerning the crop resources and industries of the State. Each of these is handled by persons who are authority on the subject in question. There are articles on each of the industries and resources of the State of Texas written by those who know. These will give the reader a better idea and conception of what there really is in Texas, so that they can conclude for themselves whether they want to come or not.

A NOTE OF WARNING.

As some people need to be cautioned occasionally, I wish to say a word along this line here. It is not every person who should come to Texas. In the first place, we do not want everybody, or anybody, here, for we can only need the better ones, those with brains and brawn, who will mean a lot of good by coming here; and, then, we do not wish such persons to come here who have a good home, and are making a comfortable living, and if they have reasonable hopes of a prosperous future for their children. If such is the case they ought not to "pull up stakes" there and go to unknown lands. They would better adopt the old saying of "letting well enough alone, and not make it worse."

But if climatic or apicultural conditions are unfavorable, and a change will be of advantage, then we would advise them to go to the new country. Or, if land cannot be bought satisfactorily near the old home to provide for the children's homes as they grow up, it would be wise to change to a location where land can be bought or otherwise obtained *cheap*, and Texas would offer many opportunities. But before concluding to move, *be sure* to investigate thoroughly, going over the ground carefully—in person, if possible.

TO PROSPECTIVE HOME-SEEKERS.

Six million acres of school lands were placed on the market by the State of Texas Sept. 1, 1905, and other lands will come on the market from time to time as the leases on them expire. Lists of these tracts of lands, and others that will be published of additional lands that will be put on the market from time to time, can be obtained by applying to Hon. J. J. Terrell, Commissioner of the General Land Office, Austin, Texas. These will be supplied free of cost to applicants, and will also contain information and directions for applying for these lands. The prices generally range from $1 to $3 per acre; in some cases more. The terms are one-fortieth cash, the balance in 40 years, with interest at 3 percent. The lands may be held 40 years by making the original payment of one-fortieth down and paying the interest annually.

Those who are seeking to locate in Texas would best write to the Land Commissioner for these lists. For information concerning the counties in which these lands are located, reference should be made to the "Texas Almanac" referred to.

In another issue some important questions will be answered that have been asked by several inquirers.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

GETTING COMBS BUILT.

Now as to getting combs built in frames, we need to use a great deal of patience and good judgment. An ideal comb for all purposes—brood-rearing and storing of honey for extracting—is one which is as straight and even as a board, and completely fills every side and corner of the frame with worker-comb. Such combs, especially of the Langstroth size, are not easily obtained. For getting them we need good, tough foundation. I have not tried anything that says less than that made by the Weed process.

The sheet of foundation should come very close to bottom and side bars, and if well wired and handled carefully it will not sag enough to buckle at the bottom.

By "well wired," I mean three or four horizontal wires drawn *tight*. Some advocate a slack wire to allow the foundation to sag. I *don't want* it to sag, and with tight wires and good foundation, and proper management, it *does not* sag, or buckle, either.

By "proper management," I refer to the main point in

getting straight combs. Do not get the foundation in too hot a place. Have upward ventilation in all hives during the honey-flow, but particularly in those where foundation is being drawn out. New swarms are especially hot-blooded, and require more ventilation than others.

In favorable springs we can get some combs built during sugar-maple bloom, by putting foundation in the center of the brood-nest of strong colonies. Of course, this is exceptionally early; but in a good flow from fruit-bloom a couple of frames of wired foundation can be put between sealed brood-combs, and will be built out and occupied by the queen. Later, during the main honey-flow, any number of new combs can be got in this way; but with this disadvantage: The lower edge of the foundation is often gnawed away to leave a bee-space between the bottom-bar and the comb. This is especially the case in a slow flow. Foundation should never be left in the hive when there is no honey coming in.

Combs built in the super when there is a brisk flow on, are much more apt to fill the frames nicely; but here are other disadvantages: If a full super of foundation is put on at once it is very liable to induce swarming; and if combs are mixed in with the foundation these are filled and bulged away over against the foundation. To overcome the bulging use a "foundation separator," which is like a fence separator grown to the size of a division-board.

Some of my Canadian friends who object to dummies in comb-honey production will no doubt object to these on the same score—"too much truck;" but it gives nice, straight combs on both sides, and also supports part of the weight of the bees, relieving the tendency to sag the foundation.

Those who use wide spacing in the super will find it necessary to space foundation close until it is drawn out.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

The Bee and Honey Pedigree.

The pedigree of honey
 Does not concern the bee;
A clover, any time, to her
 Is aristocracy.

—Emily Dickinson.

Honey-Vinegar—Honey in Remedies.

One of the good Wisconsin brothers, Elias Fox, sends the following on the uses of honey:

Honey-Vinegar.—Two pounds of honey dissolved in one gallon of soft water. Set in a warm place until thoroughly fermented. It makes the purest, the healthiest, and the best vinegar on earth.

Honey for Dyspepsia.—Take a good glass of boiling hot water and stir in it 4 tablespoonfuls of honey, and drink while hot before retiring. It will promote sound sleep, good digestion, free action of the liver and kidneys, and cure nervousness.

Hoeny in Cough Remedies.—Always use honey in *all* cough remedies instead of sugar.

A Honey Salve that never fails to cure boils and carbuncles is made by mixing together pure honey and wheat flour. Make a stiff paste, spread on a piece of muslin, and press tightly on the sore. Remove and apply a new one every 12 hours.

Honey to Keep Lips Soft and Smooth.

To a young lady anxious as to the condition of her lips, "Mme. Qui Vive," in the Chicago Record-Herald, replies:

"To keep the lips soft and smooth apply honey or white vaseline."

One can not help wondering why she should give vaseline as an alternative. Surely, no one would hesitate to decide that the pure and delicious product of the busy bee is far and away ahead of any preparation of the disagreeable coal-oil to keep a young lady's lips in condition for any proper uses for which they were intended.

Quite likely, however, "Mme. Qui Vive" thought that in a large number of cases, if not the great majority, vaseline would be found more ready at hand than honey. Should it be so?

"Bees Do Nothing Invariably."

An Australian bee-paper credits the saying, "Bees do nothing invariably," to "the late Mr. L. Harrison."

Good friends on the other side, you have things somewhat mixed. That saying originated with one of the sisters, and when you wrote "the late Mr. Harrison" you probably had in mind "the late Mrs. Harrison," who wrote many a good thing. But neither should the credit for that saying be given to Mrs. Harrison, but to another of the sisters—Mrs. Ellen S. Tupper, who at one time edited a bee-paper in this country.

A Bee-Story from Vermont.

A friend from Elizabeth, N. J., sent me the enclosed clipping a few days ago. They knew all about me and my bees, and I really think they thought I had "bees in my bonnet" when I told them some things about the bees when they were visiting me during the past summer.

I thought possibly some one could amuse themselves with the clipping. I am inclined to think that the queen-bee did not need to lead the workers to the place where the honey was, and so consequently the person who wrote the article was not "posted" on bees.

Grand Rapids, Mich. (Miss) Elsie A. Cutter.

The clipping referred to reads as follows:

Shrewsbury, Vt., Sept. 30.—When Elmer White found a bee-tree last summer, which he figured would yield at least a bushel of honey, he was greatly pleased, for he needed a new shotgun for the fall hunting, and was a little short of ready cash. He estimated that the sweet would pay for half the cost at any rate, and visited the tree now and then until the hard-working bees had filled and sealed the combs preparatory to a long, cold winter.

Then he cut the tree down, smoked off the indignant bees, and, with the help of his wife, carted the honey home. There was a little over a bushel, and it was finally decided to put it in the loft over the corn-crib. Here, Mrs. White said, it would keep dry and get air enough to prevent granulation. As honey wasn't bringing much at the time, it was thought better to hold it until the first of September, when the price would advance.

Along in August Mr. White went to Rutland and picked out a fine, breech-loading shotgun for $12, and told the storekeeper to put it aside and he would call for it before duck season. He paid $4 on deposit, and felt so pleased that he bought his wife a new poke sunbonnet for $3. Then he went home to farm it and wait for the rise in the price of honey.

The rise came about Sept. 1, as he expected, and last week he drove to the village and met a traveling produce merchant by appointment. Together they journeyed back to the farm, and the pair, accompanied by Mrs. White, got a ladder and proceeded to the corn-crib. The merchant had brought some tin boxes and a pair of scales, and leaving the latter in the barn and swinging the former on a rope, he followed the farmer to the crib-loft. Mrs. White remained on the ground.

The surprise of the pair when they found every particle of the honey missing from the comb can scarcely be imagined. Not a grain had been left. The comb itself remained intact, but the sweet had been taken to the last drop.

"Wal, I'm jiggered, if that don't beat me clean holler," gasped Mr. White, gazing in dismay at the dry comb.

The merchant, who had been examining one of the many small air-holes, laughed uproariously.

"I guess this explains it," he said, pointing to a hole well stuck up around the edges. "Those bees were a little too smart for you, Captain. They've flown in and retrieved their losses."

And so it turned out. The intelligent insects, under the leadership of the queen-bee, had followed the destroyers of their home to the farm, and, when the honey had been deposited within reach, had industriously taken it away a little at a time. It was useless looking for it now, as they had flown far with the sweet particles, and were now beginning their winter's feast.

While this story may have fact for its foundation, the material for its superstructure is evidently evolved in large measure from the brain of the imaginative reporter. The foundation facts probably are that Mr. While obtained 20 pounds of honey—possibly only 5—and that Mrs. White, desiring to keep it for a time, possibly for company, put it where the bees could reach it, and any bee-keeper can guess the result.

But let us not deny the imaginative reporter his due meed of praise. He who causes us to smile deserves our thanks, and the sister who can read the article through and not smile at some of the items evolved from the inner consciousness of that reporter—well, her smiling machinery must be in need of repairs.

Pity that reporter did not tell just how Farmer White could estimate so closely the amount of honey to be contained in the tree just by looking at the outside of the tree. And why did Mrs. White remain on the ground while the others went aloft with the tin boxes swung on a rope?

Let us not fail, in passing, to add to our catalog of facts for future guidance, that honey must be put where it will get *air enough* to prevent granulation until the rise in price always sure to come in September!

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

MEDICAL DEMAND FOR BEE-STINGS.

That medical writer on page 806, hardly meant what some will understand when he said the medical demand for bee-stings was far in advance of the supply. The visible supply is many thousands of millions—and the people of the U. S. are less than a hundred millions. Each man, woman and child can have more poison than they want to carry. Of course, what he meant was that the few bee-men now in that line of business were badly behind their orders. As to the *modus operandi*, one way, I believe, is to catch each bee in turn, pinch it a little until the sting protrudes, then seize the sting with suitable forceps and pull it away, poison-sac and all. Selser's new method I incline to register a mild protest against—making a whole colony *mad* until they will sting a rubber blanket at wholesale, and then picking the stings out of the blanket. Wastes the poison injected into the puncture for one thing; be quite awhile before the last one could be pulled. And it don't seem quite the proper practice to infuriate bees, except for ends not to be secured in any other way, lest survivors remember it, and punish outsiders another day. Apparently it's not altogether *necessary* to make a colony or apiary more dangerous to a community than it already is in order to harvest poison for the doctors.

PRICES OF HONEY AND BUTTER.

According to Doolittle, page 807, honey for a long series of years trotted nicely with butter in even span. Sad to relate, it had to be taken out at last and trot alone. Has been getting farther and farther behind on the course every year since. Very likely the identity of the prices of butter and honey did us good while it lasted; and the approximation of honey and sugar is beginning to do us harm now. With butter at 22 and honey at 20, the seller could argue for 2 cents more; but with honey at 7 and sugar at 6, the buyer can argue like mischief that honey ought to come down a cent.

THOSE WAX-HONEY EXPERIMENTS.

De-lighted, as our President would say, to see my wax-honey experiments return to me after so many days, as they do on pages 808 and 809. 'Spects that is the best contribution to apiculture I ever made.

And I rather think the time is ripe now for a little plain talk. Who originated the wretched and egregious superstition that there is any *mysterious loss* in the transformation of honey to wax? Most superstitions came down from ancient times; but this one grew up in modern times—and sticks to apiculture like a lawyer-lamprey sticks to a big and unfortunate old fish. Honey has a large proportion of water, and wax none; but otherwise there are the same ingredients in the two, but the ingredients in very different proportions. It takes about 3 pounds of honey to afford materials for a pound of wax—*and that's just what the ratio between the two is, neither less nor more*. Let us shake off our last great superstition, and burn up our rotten old idol, as the Sandwich Islanders burned up theirs.

Thanks to Adrian Getaz for showing that Huber, and Dumas, and Edwards, did *not* launch the 20 to 1 incubus, but were engaged in downing that ancient superstition, that wax was gathered from the flowers. Glad to see that others besides myself have reached the correct answer experimentally—and a different line from mine.

About 82 parts carbon, 13 parts hydrogen, and 5 parts oxygen, in 100 of wax.

About 28 parts carbon, 8 parts hydrogen, and 64 parts oxygen, in 100 of honey. Whether the honey is or is not supposed as entirely deprived of its water, I am not quite sure.

The reason the chemists say *about* instead of using their usual precision, is that wax is a variable *mixture*. Three different waxes in varying proportions constitute beeswax. Honey is also a mixture of several different sugars in varying proportions. The ratio between 28 and 82 is a little less than 3, to-wit: 2.9286. If we should add 15 percent to this for water, we would have a ratio of 3⅓—very nearly.

It is not necessary to suppose that Bruner's experiments are anything else than correct. He fed on a large scale, and the bees had to have part for their own support, and also to rear brood right along. To get a pound of wax for each 7 pounds of honey, fed in this wholesale way, is doing tolerably well. At our prices for wax, it would be getting about 4 cents a pound for dark extracted honey. But if Mr. Getaz's "inspiration" can come true, and the product supplant foundation in sections, instead of being melted up, it would be getting 8½ cents a pound for the honey.

NECTAR-YIELDING CAPTIOUSNESS OF ALFALFA.

The captiousness of alfalfa yielding honey abundantly when its severe conditions are all satisfied, and not a drop otherwise—Prof. Cook thinks that fault can be bred out of it *easier* than the honey-yielding habit can be bred into—say corn, or the potato—easier than the too-long tubes can be bred off the red clover. He may be right, but I have my doubts. Captiousness is a pretty stubborn quality. The man who *sometimes* will do a wonderful day's work to brag on, but usually nothing at all, may be harder to reform than the savage who never did a day's work in his life. Page 807.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Preventing Swarming When Running for Extracted Honey

How do you prevent swarming when you are extracting the honey? We had 80 colonies this year run for extracted honey. Of these probably every one prepared to swarm. They all had good ventilation from the bottom of the hives, and probably every one swarmed, or prepared to do so. Can you give any reason for it? VERMONT.

ANSWER.—The truth is that I don't prevent swarming when extracting, for the simple reason that it has been many a year since I worked a colony for extracted honey. If, however, I were running for extracted honey, I think I should take advantage of some things that are barred out from comb-honey producers.

First, however, I must confess that I don't know why your bees should want to swarm, and yet why shouldn't they? You don't say that your treatment of them was any different from your treatment of comb-honey colonies. Of course they would be at least a little less inclined to swarm because of having combs ready-made in which to store, but that alone is hardly a sufficient deterrent.

You say they had good ventilation from the bottom of the hives. Now that is one of the things to be tried different for extracted honey; not only good ventilation below, but good ventilation above. With comb honey all must be closed above, but I don't believe it hinders work in the extracting combs to have abundant ventilation above. If a current of air is allowed to pass through from bottom to top, it is easy to see that the cooling effect will be many times more than to have only the same amount of ventilation below, and I think we are all agreed that abundant opportunity to cool off on hot days is a strong factor in the way of preventing swarming. One of the things that gives me confidence in this kind of ventilation comes from my own experience. Every year I have one or several colonies that I call "piles"—combs piled up 3 to 5 stories high, and an opening to each story, thus giving the air a "through ticket" from bottom to top, with chance for side excursions at each story. Not one of these piles has ever swarmed, and I think it is not so much because of abundant room as because of the through ventilation. And yet I can not be sure that another factor may not have had something to do in the case, for nearly always these "piles" were started from colonies weaker than the average, becoming extra-strong as the season advanced.

Another thing I would try is the Demaree plan, which, as you probably know, consists in putting an empty story under the full one at the beginning of the harvest, the queen being held in the lower story by an excluder.

Mating and Laying of Queens

1. Does the slaughter of drones from a nucleus in which a young queen is contained indicate that the queen is mated?

2. How can I prevent the bees from building comb about the queen-cells on the stick in the prepared frame within the brood-nest?

3. Will queens lay after being mated while confined nights and days to the dark room, or should they be left outside when mated (not knowing whether they are mated or not), after they have flown say 5 or 6 evenings during quiet and sunny weather? I have carried 10 nuclei in and out for 12 days after cells have hatched, and I can not find an egg.

ENGLAND.

ANSWERS.—1. Yes, it is quite satisfactory proof that drones are no longer needed.

2. I don't know how to prevent it, and turn the question over to Mr. Doolittle. I'm not sure that I should want to prevent it, for it seems to do no harm, and is proof of prosperity that encourages such building.

3. I suppose you refer to the plan of keeping nuclei in the dark and carrying them out late in the day after drones have ceased to fly, stimulating the virgins to fly at this late hour by feeding, and also getting the desired drones to fly in the same way. At the proper time after mating the young queens should lay, even if kept in the dark most of the 24 hours. They would probably be sooner about laying if left out all day long, but in that case you could not be sure at all about their mating. It is nothing very strange that your young queens are not laying at 12 days old. Often queens do not lay sooner than that when left out all the time, and slower work may be expected when their days are made so short. Besides, it is hardly to be expected that queens will so promptly be fertilized when allowed to fly only at an abnormal time. Still further, there is the chance of failure in a large proportion of cases.

Discouraging Honey Seasons—What Bees Do with Honey

1. Compared with last year this year is discouraging. In 1904 I averaged about 40 marketable sections to the colony, spring count. This year about 4. Does this thing happen often?

2. Can you tell me what the bees do with their honey? Of course they eat it, but something else.

NORTH CAROLINA.

ANSWERS.—1. Your first question set me to looking over the first pages of "Forty Years Among the Bees" (and I want to thank you heartily for your kind words about that book), and I think if you will look over the same ground you will see that my discouragements would fully match yours. I can't tell you just how often you may expect years of failure, but you may as well be ready to shut your teeth together and meet them when they do come. I suspect there are not many places where there are not occasional years of failure. Some years ago the failures came so frequently in this region that it was a serious question whether really good years were not things of the past. There were those who said that the advancing cultivation of the land had killed off some of the sources of honey, and we need never again expect the good old seasons of big harvests. But they did return. Year before last was the best year I ever had, and I think the last 5 years were better than any other consecutive 5 years in my experience. So, keep a stiff upper lip, and have your dish right side up when the "shower" comes.

2. Of course I know what bees do with their honey; they eat it, just as you say, and they—they—well, now, I don't really know what else they do with it, unless they store it up for such vandals as you and me to steal away from them. If you know anything else they do with it, then tell.

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Reports and Experiences

Poor Season for Honey in 1905

I like the American Bee Journal; it is a splendid paper,

I have 35 colonies of bees wintering on the summer stands with roofing-felt tacked around the hives and leaves on top in the super. I have wintered my bees successfully in this way for 3 winters.

The past season was a poor one for honey in this locality. I had about a half crop. I lay with typhoid fever from May 18 to the last of August, and also 4 of my family had the same disease, so my bees had no attention until fall. We had nice fall weather here, and the bees went into winter in good condition. They had a flight this week.

Cloe, Pa., Dec. 24. E. E. WILLIAMS.

Species of Bees—A Correction

I have the American Bee Journal of Sept. 7, 1905 (page 631), and wish to correct some errors that crept into my article which was given to my typewriter in a room in Washington where many were working. I fear I did not review it.

The great bee of the Orient is Megapis dorsata, not Macroapis. In the same article the common honey-bee is referred to as Aphis. This should be Apis, of course. Aphis is a genus of plant-lice. It is very important that we get these names correct. While Macroapis and Megapis mean the same thing—big bee—there is no call or excuse for Macroapis. Our best authority on bees (Prof. Ashmead) thinks the great bee of the East should be given a distinct generic name, and he is doubtless correct.

In regard to the introduction of the stingless bees, I did not gather that the Government planned to undertake the work. Would it not be well for it to do so? If we think so, let us ask the Department to undertake it. I certainly believe it would be a wise use of money on the part of the Department of Agriculture. A. J. COOK.

Berlin, Germany.

Poor Year for Bees

Bees did no good here this year. They got a little honey in June, but no fall crop. I think perhaps it was too wet, but I am going to stay here and build my apiary to 150 colonies or more. R. J. ROBERTS.

Kennett, Mo., Dec. 18.

Big Yield from Carniolans

The editors are making a very commendable effort to find out how to obtain a large yield of honey. Some of my Carniolans did remarkably well, and I have tried to tell my neighbors how I happened to manage them. The big yield was luck, not science. Next year I will try to see if the yield is science instead of luck.

Five or six years ago one colony gave nearly five times the average yield of the colonies of the remainder of the apiary. I could not remember the particulars of the management, so the yield was a streak of luck—nothing more. This time I happened to remember how I managed the colonies that did so well. Thinking that you might be interested in reading the management, result, and inferences, I requested the editor of our local paper to send you a copy of his editorial.

O. L. ABBOTT.

Fresno Co., Calif., Dec. 4.

The editorial from Mr. Abbott's local paper (Irrigator) reads as follows:

A BIG YIELD OF HONEY.

During the season of 1905 a remarkable yield of honey was harvested from a Carniolan colony of bees in one of the apiaries belonging to O. L. Abbott.

A big yield alone is of little consequence; but when the statement is accompanied by an enumeration of the facts showing the management of the colony during the period of the gathering of the harvest, it becomes of great importance.

We will give the management, the result, and some inferences:

MANAGEMENT—Just as the colony began to hang out in preparation for swarming, Mr. Abbott withdrew two frames of hatching brood with the adhering bees, formed a nucleus, commonly called a "shook swarm," and located it in another apiary. The colony required two full 10-frame supers, in each of which he put 8 empty combs. Every 3 weeks the honey-wagon made a round for extracting. It made 4 trips. During one interval 5 frames of honey had to be withdrawn to make room.

THE RESULT—Each trip the colony furnished 16 full, fat Langstroth frames of honey, making 69 all told. Estimating that each frame yielded 6 pounds, the colony produced 414 pounds of honey. At 4 cents a pound it was worth $16.56. In addition it yielded one "shook swarm."

INFERENCES — Withdrawing 2 frames of hatching brood just as the bees commenced hanging out preparatory to swarming, checked and held the fever until the main honey-flow absorbed their attention and prevented further effort in that direction.

Extracting often enough to keep them furnished with plenty of storeroom kept them from having idlers to spread discontent.

The wonderful fecundity of the Carniolan queen caused the colony to recover in a few days from the loss of the "shook swarm," and to become and remain strong for the remainder of the season.

Mr. Abbott says that about two dozen other Carniolan colonies treated in the same manner did about two-thirds as well. He has 100 colonies of this race now, and intends to requeen 400 more with this stock. In gentleness, so far as his knowledge extends, they are surpassed only by the Caucasians.

CONVENTION NOTICES.

Nebraska:—The annual meeting of the Nebraska State Bee-Keepers' Association will be held on Wednesday, Jan. 17, at 2 p.m., at the Experiment Station Building of the Nebraska State Farm, at Lincoln, Neb. The meeting will be of interest to all bee-keepers. E. Kretchmer. of Iowa, will read a paper on "Bees and Fruit;" H. F. Smith, Assistant in Department of Entomology of the University of Nebraska, will read a paper entitled, "The Relation of Robber-flies and the Honey-Bee." A general discussion will give all present an opportunity to discuss subjects of interest.

Lincoln, Neb. LILLIAN E. TRESTER, Sec.

Colorado.—The Colorado State Bee-Keepers' annual convention will be held in the Chamber of Commerce Building, Denver, Jan. 30, 31, 1906. This will be during "Farmers' Week," when many farmers' organizations will be in the city holding conventions. We are assured of low railroad fares from all points of the State. We are planning for our usual good convention. R. C. AIKIN, Sec.

Loveland, Colo.

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To save 10 per cent to 20 per cent on the cost of your supplies, join the Co-operative Society of the National Supply Co. and buy everything you need to eat, wear or use on the farm or in the home, from the Society and you will save from $10 to $20 on every hundred dollars you spend for merchandise. The National Supply Co., of Lansing, Mich., and Chicago, Ill., is one of the largest mail order houses in the world—its prices published in plain figures in its large, **free** 1,000 page catalogue are as low and on many articles a great deal lower than any other mail order concern. Anybody can buy anything from them and save money by doing it. Members of the **Co-operative Society** get a special discount of 10 per cent from the list on everything they buy through the Society, which in the course of a year means a saving to members of many hundreds of dollars. The average farmer can save from $100 to $250 a year on his supplies—**all on an investment of but $10** for a fully paid up, non-assessable Life Membership in this Society. Can you invest $10.00 in any other way that will bring you even **one-tenth** the income that this will? Can you buy your supplies as cheaply any other way? Co-operation alone makes such a thing possible. You have everything to gain and nothing to lose by becoming a member. If you join the Co-operative Society of the National Supply Co., and your savings in discounts on purchases should not amount to $10 during the year and you wish to withdraw, we will **redeem** your Membership Certificate by paying you back the difference between the amount of the discounts you have received and the $10 membership fee, together with 6 per cent interest on the amount so paid back. Isn't this a fair offer, and doesn't it take away all risk from you? No other co-operative society ever made such a broad offer before. We invite you to join and we make it easy and absolutely safe for you to do so. Write today for particulars and full explanation of how this Society is able to make these extraordinary offers.

How We Can Sell this $47.50 Jump-Seat Buggy for $34.20

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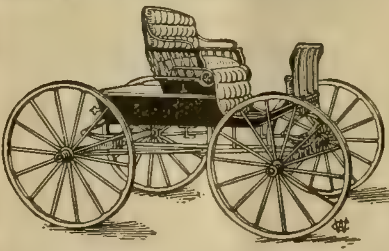
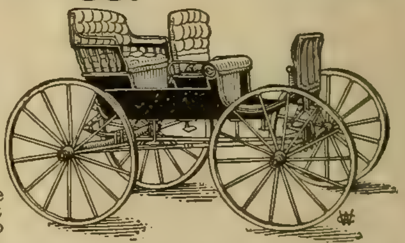


Furnished with Shafts, Carpets, Storm Apron, Wrench, etc. Our regular price for this $47.50 rig is $38.00.

Price to Members is $34.20

Here is a clear saving of $3.80 to purchasers who are members of the Co-operative Society. This is but one item of many, but it shows what a membership in this Society is worth to you in dollars saved.



This **National Jump-Seat Buggy** is actually worth $47.50 and you cannot duplicate it for less anywhere else. It is built for two or four passengers, made of good hickory, and is fully warranted in every particular—quickly changed from a single to a double seat without removing any parts. This is acknowledged to be the most convenient arrangement ever invented. It is very simple, making it possible to instantly change this rig from a two-seated buggy to a really desirable light market wagon—just what every farmer needs. **Wheels** are all hickory, Sarven or shell band, 1x¼ inch steel tire. **Gear—Axle.** 1 inch, dust-proof, and cemented to hickory wood, rear king bolt, fifth wheel and double perch reach. Oil-tempered, elliptic springs, strong enough to carry four passengers. **Body**—white wood and hickory, strongly ironed throughout, and full length body loops 60 inches long and 28 inches wide. **Cushions**—green cloth, whipcord or imitation leather. **Painting**—body black with dark green gear, narrow stripe, high-grade finish. We are only able to make this remarkable offer by taking the entire output of the factory, and saving all middlemen's profits—co-operation in this Society cuts out all needless expenses and profits between the factory and the member. Send us an order for a National Jump-Seat Buggy at once—$38.00 is cheap for it. To make the bargain still better, send for an Application Blank, join the Society, and save $3.80 extra—this extra saving will pay more than one-third the membership fee. Hundreds of members have joined the Society without it costing them a cent—the savings on their purchases paying the full fee and often leaving them a nice profit besides. We solicit you to join the Society **now.**

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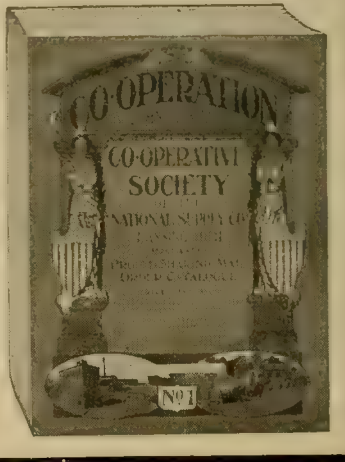
LANSING, MICHIGAN **CHICAGO, ILLINOIS**



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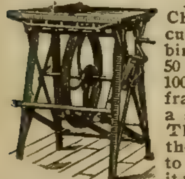

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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1½-story hive, for comb honey	2.05	2.15	9.50	10.00
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Either Flat or Gable Cover at above prices.

SPECIAL.—With every order for five or more hives received during January, we will give FREE, your choice of "American Bee Journal," 1 year; revised edition "Langstroth on the Honey-Bee," or "Forty Years Among the Bees," by Dr. C. C. Miller.

We are installing special Section machinery. Get our prices. We will carry a full line of Supplies this season. A postcard will bring you our list. Try it. Money back if dissatisfied.

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Advanced Bee-Veil. Cord arrangement, absolutely bee-proof, best on earth. Made of imported French tulle veiling. Cotton, with silk face, 50 cents, postpaid. 49C7t

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Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS now.** Write to-day. Address,

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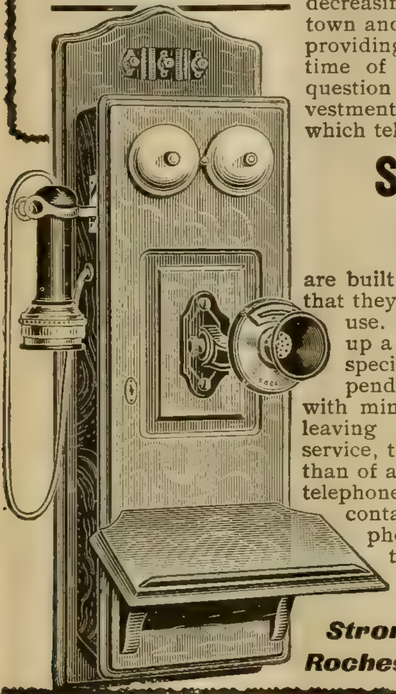

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are built better than the ordinary telephone, so that they are especially adapted to the farmer's use. Every piece and part that go to make up a complete telephone are made by skilled specialists in our own plant—the largest independent telephone factory in the world—made with minute care and thoroughly tested before leaving our hands; that's why they give best service, that's why there are more of them in use than of all others combined, that's why it is the telephone to buy. Many other good reasons are contained in our new book, "How the Telephone Helps the Farmer," which will interest you if you are going to buy one or a hundred telephones. Write today—ask for book 80-L—we send it free.

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Until further notice, finest quality new crop California Water-White White Sage and Light Amber **HONEY** in 60-lb. tins, 2 in a case; new cans and new cases. Write for prices and samples, and state quantity you want.

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WANTED

Fancy White Comb Honey in Non-Drip Shipping-Cases; also White Clover Honey in cans and barrels. Please send samples and state your lowest price, delivered here. We pay **spot cash** upon receipt of goods.

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The following discounts apply on all orders except honey-packages for current use:

For cash orders before Oct. 1—10 percent

Nov. 1	9 percent	Feb. 1	6 percent
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We have a good supply of **Pure Alfalfa HONEY** in 60-pound cans that we can ship by return freight at these prices: 2 cans, boxed, at 8½ cents a pound; 4 or more cans at one time, 8 cents a pound—all f.o.b. Chicago. Cash with order. Sample, by mail, 8 in stamps, to cover package and postage.

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Honey and Beeswax

Chicago, Dec. 6.—The trade in best grades of white comb honey has been fair, yet retailers taking only small quantities at a time. This honey brings 14@15c; other grades are difficult to place at from 1@3c per pound less. Extracted selling at 7@7½c per pound for white; amber 6½@7c; dark 5½@6c. Beeswax, when clean and of good color, 30c. R. A. Burnett & Co.

Cincinnati, Nov. 24.—The demand for comb honey is relaxing to some extent, owing to the majority of the trade being well supplied. All fears of a comb honey famine have been allayed. We quote fancy white comb honey at 14@16c. Extracted honey is in fair demand. Quote amber at 5¼@6½c, according to the package and quality. Fancy white and white clover extracted at 6½@8½c. We are paying 28½c per pound delivered here for choice yellow beeswax.

(We wish to call the attention of the producer to the above honey quotations, who mistakably expects to receive these prices for his product. The above are our selling prices.)
The Fred W. Muth Co.

Toledo, Oct. 17—The honey market remains firm, with good demand, and prices the same as last quotations. Fancy white comb brings 15c; No. 1, 14c; fancy amber, 13c; buckwheat, 13c. Extracted, white clover, in barrels, 6¼@6½c; amber, in barrels, 5@5¼c; in cans, 1c to 1½c higher. Beeswax in good demand, 26c cash, 28c trade. Griggs Bros.

New York, Dec. 6.—The demand for comb honey continues to be fair for all grades. Prices practically remain the same. We quote fancy white at 14@15c; No. 1 at 13c; No. 2 at 12c, and buckwheat at 10c per pound. Extracted honey is in good demand, especially California honey with large supplies. We quote white at 6½@7c; light amber at 6c; buckwheat, extracted, at 5½@6c per pound; Southern at 50@60c per gallon. Beeswax firm and steady at 29@30c per pound. Hildreth & Segelken.

Indianapolis, Dec. 15.—There is a tendency for higher prices on best grades of honey. The demand for strictly fancy white comb honey exceeds the supply. Demand for lower grades of comb honey not good. Numerous shipments of honey arriving, but no one producer seems to have very great quantities to offer. I quote fancy white at 15@16c; No. 1 in poor demand at 12c, and amber dull at 10c. Best grade extracted brings 8@9c in 60-lb. cans; amber slow at 6c. Beeswax, 30@33c. Walter S. Pouder.

Denver, Nov. 11.—No. 1 white comb honey, per case of 24 sections, $3.35; No. 1 light amber, $3.00; No. 2, $2 50@3.00. Extracted honey, 6¾@7 cts. per pound. Supply is light and we coud make quick sales of consignments at above figures. We pay 24c for clean, yellow beeswax delivered here.
The Colo. Honey-Producers' Assn.

Cincinnati, Dec. 18. — The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, light amber, 5¼@5½c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c.
C. H. W. Weber.

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For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

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521 Monroe St., TOLEDO, OHIO.

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MUTH SPECIAL DOVE TAIL HIVES, have a honey board, warp-proof cover, and bottom board, think of it, same price as the regular styles. Send for Catalog.

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Extracted Honey—Fancy white, 6½c; fancy amber, 6c; ¼c less in 5-case lots or more.

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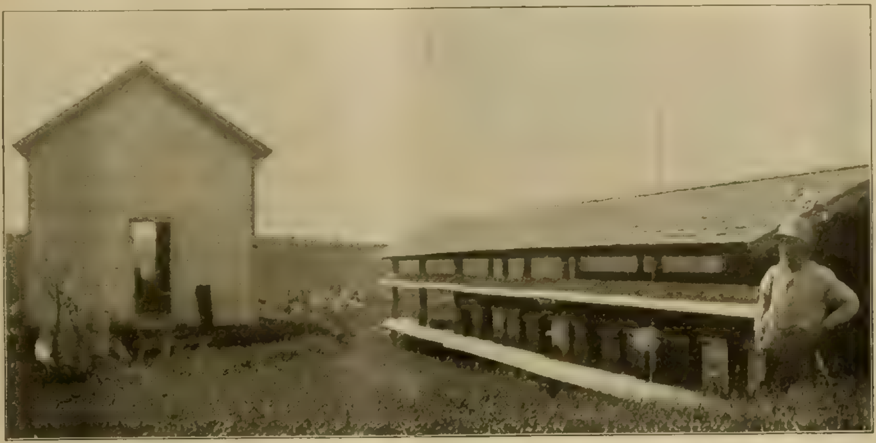
46th Year. CHICAGO, ILL., JAN. 11, 1906. No. 2.



Shed Apiary of W. Patzner, of Grant Co., Wis.; also Store-Room Building with Bee-Cellar under it.

An Apiary of L. M. Gulden, of Osakis, Minn.—(See page 27.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

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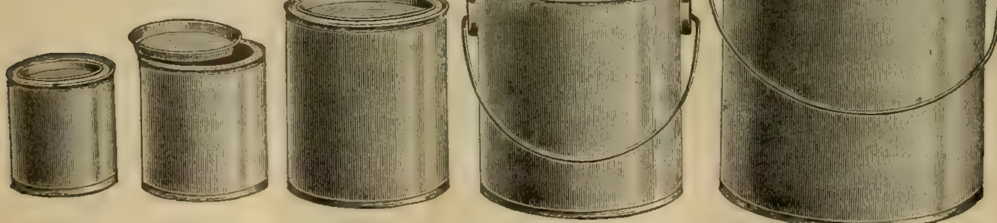

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❧

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This department occupies the 3 floors of the main building of the factory. It is equipped from top to bottom with the best machinery that brains can invent and money buy. Every detail in hive-making has been carefully figured out. Immense sheds covering acres of ground protect the lumber piles so that shrinkage is reduced to almost nothing. This accounts for the accurate fitting and clearness of stock of Root's wooden wares. The entire factory, light, and machinery power, is furnished by a great, 400 horse-power engine, and a 100 horse-power dynamo.

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Equipped with the most expensive machinery and manned by skillful employees. We make our own metal parts and much machinery for other factories. Powerful iron presses, iron cutting and drilling machines are in evidence everywhere.

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We have scattered in and around Medina 5 apiaries devoted exclusively to bee and queen rearing, supplemented by 5 more in New York, Pennsylvania and Cuba, and we control the product of several other large queen-breeding establishments. Our queens are bred with scientific care. We test every device we make before it is introduced to the public.

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Two railroads run their cars to our doors. From a dozen to 20 men are kept busy loading and packing the 175 to 200 carloads we ship every year, besides the thousands of less than carload shipments. Eight express trains a day. With large warehouse packed full and a great factory it is a little wonder that Roots have gained a reputation for promptness in filling orders for the hundreds of things in their catalog.

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Two large cylinder presses; 3 platen presses; paper folder, trimming, cutting and stitching machines; skilled typesetters, printers, book-binders—all help to turn out semi-monthly the large issues of Gleanings in Bee Culture; the five to ten thousand A B C books every year; together with our 500,000 supply catalogs, not speaking of the numerous other catalogs, booklets, labels and all varieties of printing. Two carloads of paper required for our annual catalog, a half carload for our Christmas Gleanings alone.

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Eight branches with large stock in all great centers. Numerous jobbing agencies and hundreds of smaller agents place our goods at your door at factory prices, with freight charges and time taken in shipment reduced to the lowest possible point. We wonder if the bee-keeper ever thinks of the many hands and brains that plan for him? Of the hundreds of thousands of dollars, and the hours consumed to make and deliver his supplies?

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The office is the brain of the factory. Here are the executive, editorial, advertising and book-keeping heads. Here the thousands of details are cared for. Root's office is as modern as you can find anywhere. Six typewriters are kept busy; adding machine, copying machine, vertical letter files, card indexes, etc.—everything to care for the half million dollars worth of business we do yearly. We have every interest of the bee-keeper at heart. We are working for your good, for your prosperity means ours.

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Published Weekly at $1.00 a Year by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 11, 1906 | Vol. XLVI—No. 2

Editorial Notes and Comments

A New Bee-Paper in Russia

Those of our readers who are familiar with the Russian language may be interested to know that an apicultural and horticultural journal in that language has been launched at Reval Estland, Russia, the name of which is—non-Russians are advised to brace themselves firmly before pronouncing it aloud—the name is, "Wsjeobschtschi Ptschelowod und Sadowod." No wonder there is trouble in Russia!

Entrance-Closers for Hauling Bees

For hauling bees not too great distances, the owner accompanying them, and with entrances not too deep, here's a bright plan of closing the entrances, given in the Bee-Keepers' Review:

> Cut a piece of wire-cloth 2 inches wide, and as long as the entrance is wide. Fold, or bend, it along the middle of the long way until, in looking at the end, it has the shape of the letter "V," or possibly the letter "U." Introduce the folded edge into the entrance, and crowd the wire-cloth back into the entrance until the outer edges are nearly or quite even, or "flush" with the front of the hive. The elasticity or "spring" of the wire keeps it in place, yet it can be very easily and quickly pulled out with the points of the finger and thumb.

Shipping Only the Younger Bees

Editor Hutchinson intends next season to ship bees to the raspberry region at the beginning of the harvest, and his plan of sifting out the older bees may be new to some. He says:

> Two or three days before they are to be shipped they will be moved out of the apiary a short distance, and the flying or field bees allowed to return and join the weaker colonies that remain in the apiary. This course will be taken for two reasons. The full colonies that are to be shipped will stand the confinement and shipment much better for the removal of these old bees. It is these old bees that worry and make a fuss and die in the hive. The young bees that have never flown, bear the confinement exceedingly well. The old bees that return and join the weaker colonies will boom them, and they will soon be in a condition for artificial increase, to which purpose they will be devoted.

Feeding Bees in Winter

Until lately it has generally been held that liquid feed can not be safely given in winter, but evidence is accumulating that although it is a bad practice to allow bees to go into winter quarters lacking sufficient stores, yet with proper precautions syrup may be safely given at any time. On this subject, R. F. Holtermann has the following in the Canadian Bee Journal:

> "If any one has bees with insufficient stores for winter under proper conditions, I feel sure bees can be fed during the winter and yet wintered with success. Now, remember, I do not advocate this. I am sure it would be very undesirable to practice such bee-keeping, yet it can be done. Bees, however, as far as I know, can not be induced to take feed *down*, such feed must be put *under* the cluster, not *over* it. The hive can be raised from the bottom-board sufficiently to shove under the cluster some feeder open at the top, yet in which the bees will not perish. The feed can be given as occasion requires."

A question may be raised as to the correctness of the statement that bees can not be induced to take feed down, and that it must always be given from below. Certainly, it is the natural thing for bees when storing to carry from below above, yet it is equally the natural thing in winter for the bees to go upward for stores. Whether, as a rule, bees will in winter take feed much more readily from below than above, is a question upon which it is desirable to have more light. Mr. Holtermann's suggestion, however, is well worth considering on the score of convenience to the bee-keeper. In many cases it is much more convenient to give feed from below, whether it be in the comb or in a feeder, and especially for those who use bottom-boards of the Miller pattern, giving a 2-inch space under the bottom-bars. A brood-comb of sealed honey, a section of the same, or a shallow dish of syrup furnished with a cloth or other provision against the bees drowning, may be quietly shoved under with little disturbance to the bees.

It is well, however, to impress thoroughly upon the minds of beginners the fact that generally feed given to bees in winter will not be taken by them at all, no matter whether given above or below. Go to a colony in the open air, with its stores nearly or quite exhausted, and the thermometer down to zero, and no amount of stores given will avail to prevent starvation so long as the bees do not leave the cluster. This they will not do till there comes a warmer day. Possibly a good shaking up may stir them up enough to make them take the food—possibly not. At any rate, at such a time it would seem an easier thing to get them to go aloft to a cake of candy warmly covered up than to make their way down to into the much colder air below. But give the food on a day warm enough for the bees to fly, and they will be very active in carrying it either up or down to the cluster.

In the cellar there is less difficulty, there being moderate weather there at all times. If there is a deep bottom-board, and the cluster of bees extends down below the bottom-bars, all that is necessary is to shove under the comb of honey or the feeder in such a way as to touch the cluster, and the bees will do the rest. In any case there is an advantage in giving liquid food hot, if liquid food must be used, and having combs of honey in a warm place for some time before being given. If the cluster of bees is not sufficiently down, blowing into the entrance may bring them down, but don't be satisfied until you *know* that the bees have reached the food.

Caucasian Bees in England

D. M. Macdonald, in the British Bee Journal, quotes the remark of an American editor, that these bees are "the most worthless race of bees that has ever been offered to the public," and adds:

> I think that is practically the finding arrived at in this country by our Mr. W. H. Brice eight years ago, after giving them a pretty exhaustive trial. His verdict was:
>
> "I consider them worthless for bee-keeping purposes in this country, and, in a word, I call them 'wasters.' Thus," he says, "Exit, 'Reines abeilles de la race Caucasienne gris et jaune de qualite eprouvee.'"
>
> They were quiet, too quiet, poor breeders, lazy as workers, and bad winterers. Americans are seemingly finding out something similar now.

First Apiarian Exhibition

We have received the following letter from Mr. C. R. Russell, Secretary of the Worcester County, Mass., Bee-Keepers' Association:

> EDITOR AMERICAN BEE JOURNAL—
>
> I would like to call your attention to the apiarian exhibition that is planned for the fall of 1906. As far as we have learned this will be the first strictly apiarian exhibition ever held in this county. Pet animals, poultry, or anything else that does not belong to bee-keeping and apiarian supplies will be barred out. The exhibition will not be a money-making affair, for we plan to make it a *free* exhibition.
>
> The exhibition will be under the auspices of the Worcester County Bee-Keepers' Association. Manufacturers of supplies, publishers of literature bearing on the subject, honey-producers, queen-rearers, and all those interested in bee-keeping will be asked to join with us in making this exhibition a perfect success. Correspondence is earnestly solicited, and all questions will be answered by the Secretary.
>
> C. R. RUSSELL,
> *Secretary Worcester County Bee-Keepers' Association.*
> Box 832, Worcester, Mass.

We see no reason why the proposed apiarian exhibition shouldn't be a success. It ought certainly to be a good opportunity to inform a lot of people on the value of honey as a food, and so the best literature on the subject should be distributed.

It would be a good thing to hold such exhibitions in every city of any size, as a means of educating the people as to just how honey is produced. Not for the purpose of inducing more people to go into bee-keeping, but to get the public to eat more honey, so as to make a better demand and price for that already produced.

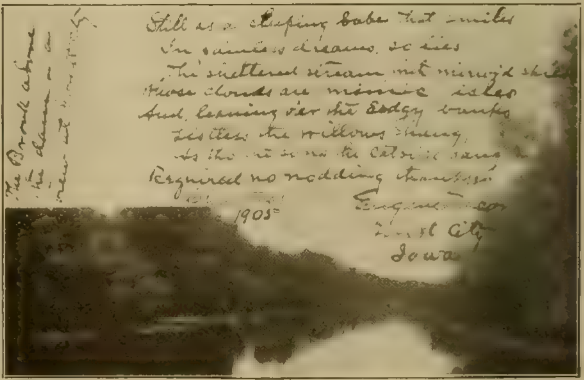
Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when writing us on other matters.

Miscellaneous News • Items

Exchange on Local Checks.—We wish to call the attention of our subscribers to the exchange now charged on local bank checks. Add 15 cents to all such checks, or we will have to deduct it from the amount, or else hold the order till the extra exchange charge is received from the one sending the local check. But, better still, always get either a money order of some kind or a draft on Chicago or New York, then there will be no exchange charge. *This is a very important matter.*

Mr. Wm. A. Selser and Family are spending the winter on the banks of the St. Lucie River, in Florida. Writing us under date of Dec. 16, Mr. Selser said they expected to remain there until about the first of February. There are some 50 colonies of bees within a stone's throw of their kitchen door. Mr. S. is doing some experimenting, and making a study of the floral conditions of southern Florida. Bees were bringing in pollen every day, and some little nectar, at the time Mr. Selser wrote us.

Hon. Eugene Secor, of Forest City, Iowa, still very easily retains his right to be called the the "Poet-Laureate of Bee-Keeping," as is again proven by his poem on the first page of last week's number. Mr. Secor also sent us the souvenir postal card with a touch of local interest illustrated thereon, and also a rhythmic stanza, as shown by the engraving herewith.



Still as a sleeping babe that smiles
In painless dreams, so lies
The sheltered stream [illegible] mirror'd skies
Whose clouds are mimic isles
And, leaning o'er the sedgy banks
Listless the willows swing,
As tho' [illegible] sang
Required no nodding thanks.

1905

Eugene Secor
Forest City
Iowa

Some Bee Journal Co-operation.—We recently received the following:

> EDITOR YORK:—A short time ago, as you will remember, it was proposed to raise the price of the American Bee Journal. You thought that a better way would be for every subscriber to send in the name of a *new* subscriber, and keep the price of the Journal the same. Upon reading your reply, I was of the same opinion, and went out and captured my new subscriber. Enclosed find his dollar, for which please send him the American Bee Journal for one year.
>
> Yours very truly, W. J. YOUNG.

We wish to thank Mr. Young for his promptness in acting upon our suggestion. It shows his appreciation of the American Bee Journal in a way that can not be doubted. Likely there are many other subscribers who could duplicate Mr. Young's success. If we could have just double our present list of readers it would make quite a difference, for, as we stated in the article referred to by Mr. Young, many of our fixed expenses, such as office-rent, typesetting, engraving, etc., are the same whether we print 1000 copies or 20,000 copies of the American Bee Journal.

During the winter season, when work is a little slack for most bee-keepers, no doubt with but little effort they could go out among their neighbor bee-keepers and secure their subscriptions. In nearly every number of the Journal we offer very liberal premiums for securing new subscribers and sending in their dollars. It is not our aim to increase the number of bee-keepers throughout the country, but to get those who are already keeping bees to read the American Bee Journal and profit by the information it contains. Our belief is that what is needed is *better* bee-keepers rather than *more* bee-keepers.

We wish here and now to thank all who have helped to extend the circulation of the American Bee Journal. It is only by co-operation that its influence can be spread, and thus lift up all who read it and are endeavoring to become more thorough and practical bee-keepers. It should always be borne in mind that the American Bee Journal is not a millionaire corporation, and also that in furnishing a weekly paper like it is, for less than 2 cents per week, there is not a large margin of profit.

We hope that all our present readers will do their utmost to secure new subscriptions during the next few months, and thus put into the hands of their bee-keeping neighbors literature that will help them use better methods, and also prevent them from being injurious competitors on account of their not knowing the market value of honey.

We desire that every one of our readers shall make the most out of his or her bees, and to that end we are using our every effort to fill the columns of the American Bee Journal with what we believe will be a benefit to all.

* * *

Louis H. Scholl has resigned his position as Apiarist and Assistant in the Department of Entomology, of the Agricultural and Mechanical College, at College Station, Tex., to resume his college work in the Ohio State University, at Columbus, Ohio, the coming year. So many great men having come from Ohio, we suppose Mr. Scholl desires to be further inoculated. He got a taste of it last winter, and evidently likes it.

* * *

Rev. A. R. Seaman's Apiary of some 36 colonies, located at South Connellsville, Pa., was interfered with quite seriously by a wind-storm the night of Dec. 20. Some 9 hives on the summer stands were blown around considerably; some of the hive-covers were blown so far away that they have not been found since. A strong wind can do a great deal of damage in an apiary in a very short time. We hope that Mr. Seaman will not suffer a very serious loss.

* * *

The Apiary of L. M. Gulden.—When sending the picture reproduced on the front page, Mr. Gulden wrote thus:

> The apiary is located near the west shore of Lake Osakis, in Todd County, and consists of about 100 colonies. The regular 8-frame dovetailed and Jumbo hives are used; also some Langstroths. The hives and supers are fitted with wooden thumb-screws for tightening. By the way, this thumb-screw arrangement is just the thing for the Hoffman frames, and, if they are always tightened properly, there is no trouble from the bees packing so much propolis between the frames that they finally become too wide for the hives. However, the loosening and tightening consumes some time, which amounts to considerable in the busy season.
>
> Where out-yards are moved, as is often the case, the Hoffman frame with thumb-screw arrangement is certainly the arrangement *par excellence*, and not to be compared with the rattle-box, loose-frame contrivances. In the ordinary manipulation of bees in an extensive system of out-yards, put me down as a "stand-patter" on the Hoffman frame with end-staple spacing.
>
> The hives in the apiary shown are not shaded, but when shade seems desirable boards are leaned up against the sunny side of the hives. The stands consist of old supers, or 2x4 inch studding set endwise at the front and back, and fastened together on top by two boards nailed fast. This allows the feet to be pushed underneath while manipulating the hive, thus lessening the strain on the body of the operator, and also facilitating proper ventilation.
>
> This being an out-yard, and visited only occasionally, stones are laid on the covers, as shown, to protect from wind, sun, and the rubbing of stock.
>
> A section of a bee-tree is shown sitting on end in the back-ground at the right. It is not now stocked, as the bees it contained died during the winter, apparently from lack of stores or cold.
>
> This yard together with two others—one consisting of about 160 colonies, and the other a lesser number—were managed by me alone the past season. The yards are about 8 miles apart—too far for economy in traveling to and fro. I use as a basis of management in the swarming season the shaken-swarm system formulated by myself at about the same time that others took an interest in shaken swarms. Both comb and extracted honey are produced in all the yards. The apiary shown, and one other, produced less than one-half a crop this year, while the third, and largest, yielded a full crop. This illustrates the variability of different yards in the same season, and only a few miles apart. Two of the yards are accessible to both clover and basswood; the third to clover only. Clover was practically a failure in the honey-line the past season.
>
> I might add that the photo work was done by myself, photography being pursued as a means of pleasure and recreation. L. M. GULDEN.

* * *

The Wisconsin State Convention will be held at Madison, Feb. 6 and 7, 1906. A more extended notice will be published later. The Wisconsin convention is one of the best of all the State conventions of bee-keepers, and is usually well attended. The next session should be the largest of all. Some of the most successful bee-keepers in all this country are located in Wisconsin. Their influence is always felt in the Chicago-Northwestern convention, and was much in evidence at the late meeting of the National here in Chicago. Their large experience and willingness to impart it to others make them very valuable convention members, as well as contributors to the columns of the various bee-papers.

* * *

Thursday a Red-Letter Day.—Mr. A. L. Dupray, of Iowa, wrote thus when asking for a missing copy of the American Bee Journal:

> "I think the American Bee Journal is indispensable to my business. I could not keep bees without it, and look for Thursday as a red-letter day because it brings the American Bee Journal."

A good way to help more bee-keepers to have "red-letter days" is to get them to be regular readers of the American Bee Journal. Only 2 cents for a red-letter day—and 52 of them in a year.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

* * *

Maple Sugar and the Sugar Bush, by Prof. A. J. Cook; 44 pages; price, postpaid, 30 cents. This is by the same author as "The Bee-Keepers' Guide," and is most valuable to all who are interested in the product of our sugar-maples. No one who makes maple sugar or syrup should be without it. Order from the office of the American Bee Journal.

Convention Proceedings

Report of the Minnesota State Convention

The Minnesota Bee-Keepers' Association held its 17th annual meeting in Minneapolis, Dec. 6 and 7, 1905. It has been decided by the Executive Committee not to hold a meeting this year, as the date conflicted with that of the National Association. When it was learned that the date of the National had been changed a program was hurriedly arranged. It was impossible for some who had been assigned papers to make preparation on so short a notice. Nevertheless, the meeting proved to be an interesting and helpful one. It was called to order by Pres. Dr. E. K. Jaques, followed by invocation by Chas. D. Blaker. The minutes were read by the secretary, Mrs. W. S. Wingate.

The financial report of the Executive Committee was read by J. C. Acklin, chairman. Dr. Leonard made a report for the committee concerning the efforts made to secure better facilities at the State Fair grounds. Wm. Russell reported as to what the committee had done to secure the passage of a foul brood bill.

It was moved that a vote of thanks be tendered to R. P. Brown, W. P. Roberts, M. J. O'Laughlin, and S. A. Stockwell, for their efforts to secure the passage of a Foul Brood Bill.

It was voted that the Executive Committee continue to take such steps as it may think best toward securing a foul brood law.

The Treasurer's report showed a balance on hand of $74.83.

Mr. Russell read the report of the Committee on Adulteration. The Minnesota Dairy and Food Commission has analyzed, since Jan. 1, 1905, 64 samples of honey, and but three were found illegal.

It was voted that the Association extend its hearty thanks to the members of the Dairy and Food Commission for the service they have rendered to the bee-keepers of Minnesota and to the people in general.

The afternoon session was opened by singing "America," with Mr. Levi Longfellow at the instrument.

Dr. Jaques, in the President's annual address, gave a very full account of the work which had been accomplished during the year.

Scott LaMont read an article from the last Gleanings, written by E. W. Alexander, entitled, "Amount of Honey per Colony." This led to a discussion which proved quite helpful.

Mr. Levi Longfellow gave a very helpful address on "Marketing Honey."

Rev. J. H. Kimball, of Duluth, spoke on "Preparing Comb and Extracted Honey for the Market."

Miss Mary Moeser read a paper on "The Uses of Honey in Cooking." The Executive Committee was authorized to publish Miss Moeser's paper so that it might be more generally circulated.

The question-box brought out considerable discussion on various subjects, among them the following: Stimulative feeding in the spring; How to keep down increase; The mixture of different kinds of extracted honey; Is it advisable to use shallow frames above a 10-frame hive when working for extracted honey? etc.

The Thursday morning session opened with instrumental music by Mr. Smith, of the Metropolitan Music Co., followed by a song, "The King's Business," by Miss Ethel Acklin.

Mr. Russell spoke to the question, "Shall we invite the National Convention to Minneapolis for 1906?" It was unanimously voted that we cordially invite the National Convention to meet with us in the Twin Cities at its annual meeting next year.

Prof. F. L. Washburn, State Entomologist, gave a very interesting account of his experience with a Carniolan queen and a Caucasian queen, which had been received from the Agricultural Department at Washington

Mr. J. M. Underwood, of Lake City, Superintendent of Agricultural, Horticultural and Honey Department of the Minnesota State Fair, related his early experience with bees, to the amusement of all. He then spoke on the matter of the State Fair exhibit, and of the possibility of securing better accommodations in the future.

Mr. Russell gave an outline of his work as foul brood inspector. His commission went into effect August 1. Since then 67 apiaries containing 2,366 colonies had been visited. In 20 apiaries, containing 529 colonies, disease was found in all stages. On account of the lateness of the season and the presence of robber-bees, it was impossible to ascertain the exact number of diseased colonies. It was deemed best not to make a thorough investigation for fear of spreading the disease. Mr. Russell called attention to one case of a diseased apiary of 40 colonies where the owner absolutely refused to have the bees treated, giving as the reason for refusal, "They are going to be sold, anyway." Some of those diseased colonies were sold. However, they were traced and some of them destroyed, with the consent of the owner. In closing, Mr. Russell expressed his appreciation of the kindness and courtesy which had been extended to him by nearly all the bee-keepers with whom he had come in contact.

Piano solo by Miss Ethel Acklin.

Dr. F. C. Spates, of St. Paul, read a paper on "Honey as a Food and Medicine." A vote of thanks was extended to Dr. Spates for his very instructive paper.

The Thursday afternoon session was opened with a paper sent by W. K. Bates, on "Summer Feeding of New Swarms."

Mr. Chas. Mondeng discussed "Adel Bees."

Mrs. H. G. Acklin read a paper on "The Educational Value of Apicultural Exhibits, and How the Minnesota Bee-Keepers' Association Has Aided in Securing These Opportunities for the Bee-Keepers of the State."

By special request Dr. Jaques recited a poem which he wrote some years ago, giving a history of his regiment. The members of the Association expressed their appreciation in a hearty vote of thanks.

Rev. J. H. Kimball moved that the members of the Executive Committee be elected, one for one year, one for two years, and one for three years, and that hereafter one be elected annually for the term of three years; and that the committee elect their own chairman. The motion was unanimously carried.

The following officers were elected for the ensuing year: President, Dr. L. D. Leonard, of Minneapolis; First Vice-President, Scott LaMont; Second Vice-President, J. M. Doudna; Third Vice-President, J. W. Murray; Secretary, Chas. D. Blaker, of Minneapolis; Treasurer, Mrs. W. S. Wingate; and the Executive Commmittee, J. C. Acklin for three years, Rev. J. H. Kimball for two years, and William Russell for one year.

Scott LaMont and J. C. Acklin were appointed, with the President, as delegates to the next meeting of the State Agricultural Society.

It was voted to express the thanks of the Association to the Metropolitan Music Co. for the use of the instrument and for the musical assistance rendered by the company.

It was moved that the President be delegated to attend the National Convention and extend the invitation of this Association to the convention to meet in the Twin Cities for their next annual meeting.

Adjourned to meet at the call of the Executive Committee.

CHAS. D. BLAKER, Sec.

Contributed Special Articles

Bee-Keeping as a Recreation

BY ROBERT R. M'CAIN.

ONE of the most important considerations, after one's occupation and income for a livelihood have been attended to, is that of recreation.

The average man, endowed with a fair measure of industry and thrift, thinks too little of the demands of his constitution for repairs and re-invigoration.

The best rest is a change of work.

Seven or 8 hours of good, sound, restful sleep out of every 24 furnishes ample time for the rebuilding of the tissues of muscles and nerves. To enjoy his best estate man should have a serious avocation to which he will devote himself by way of change from the more exacting duties of his business or profession.

The nature of this avocation should be sufficiently attractive to lure his thoughts away from corroding cares incident to the main business of his life. It should furnish material for thought and speculation in such measure as to lead him on in the pursuit of answers to questions arising naturally in the course of his work gratifying his curiosity just enough to whet his appetite for deeper research. It should offer some pecuniary reward for his labor so that he would feel justified in continuing his work from an economic point of view. And above all other considerations, this avocation should be of such a nature as to entice him into God's out-of-doors, where he, whose daily occupation holds him in close, shaded rooms, may breathe in sunshine and breathe pure air.

Few occupations can answer all these demands so thoroughly as bee-keeping. Gardening might do so if it were possible to adapt it to the crowded conditions of city and suburban life. But gardening is an impossible consideration to thousands who might easily employ bee-keeping as a means of recreation. Contrary to the popular notion, bee-keeping is one of the most adaptable of rural pursuits. The back yard, the house-top, the dining-room window, all furnish suitable locations for a hive of bees.

The first and most necessary asset of bee-keeping, whether for profit or pleasure, is a fund of knowledge. This suggestion may have a dampening effect on the interest of one already suffering from "brain fag." But the acquisition of this fund of knowledge ought to prove one of the most delightful and restful occupations for the long evenings of the winter months. Next to actual work with the bees, the perusal of books and papers on the subject of bee-keeping is a most helpful recreation. Many an hour will be relieved of its tedium, and many a necessary task will be the better performed, because the mind has been engaged in the wholesome occupation of delving into some of Nature's mysteries.

With the first appearance of spring the knowledge thus acquired will verily demand demonstration in practice. A colony or two of bees in modern hives will be the first visible result of the winter's cogitations. As the season progresses things will begin and continue to happen among the bees and to the bee-keeper The bee-keeper's friends will fairly wear out the old joke about his having "a bee in his bonnet." In spite of the joke, however, his interest will increase rather than diminish, because at every step he is called upon to produce some portion of the knowledge stored away during the winter, and, if his eyes are open, it will be his pleasure to add to that fund from time to time.

Finally, the day will come when his table will be adorned with the "first fruits" of his hives, and without the least twinge or compunction of conscience as to the possible cost of that pound of honey, he will eat of it, and have his family and friends to partake with him, in the firm conviction that it is an improvement on the nectar of the gods.

When winter comes again and the parent colonies, with the increase which he has made during the season, are snugly tucked away, with ample stores close beside them, for their long confinement, the owner will view them with satisfaction as a most delightful acquisition to his life interests. His carefully kept account will reveal a goodly financial "income on investment," but better than all other profits of the season will be the clearing of the cobwebs from his brain in the pursuit of a healthful outdoor recreation.

This garret-dusting process will have come about through the building up of muscular and nerve tissues as a result of bodily exercise in a most favorable environment. There will have come also mental re-invigoration in the pursuit and mastery of some of Nature's secrets to which there is no better introduction than the understanding of the economy of the bee-hive. Coal City, Ill.

Wintering Bees on Solid Combs of Honey

BY DR. C. C. MILLER.

J. L. BYER, on page 744, says the plan is all right. C. P. Dadant, on page 791, says it's all wrong. Suppose we look at conditions with a hive containing solid sealed combs of honey.

As explained by Mr. Dadant, they are talking about two rather different things—Mr. Dadant about a colony in such condition that the queen has been crowded out early enough for the combs to be filled with honey, and Mr. Byer about a colony in which the bee-keeper has been meddling to have the brood-chamber filled solid. And yet, when they are all through, you can see that while they're trying to look good-natured about it, each thinks the other is wrong.

Suppose we look at the conditions with every comb filled with honey and sealed down to the bottom-bar. When bees seal cells of honey they leave a space of just about a fourth of an inch between two adjoining combs. A bee gets through a perforation of 1-6 of an inch in excluder zinc, and it needs all of that space. If a layer of bees were to stand on each of the opposing faces of comb, back to back, they would need a space of 2-6 or 4-12. But the space is only ¼, or 3-12. So there's room for only one layer of bees between the two combs. Even suppose two layers should crowd in, could those two layers keep each other warm for a number of days of zero weather? But you say there are other seams of bees to help. Yes, but between this and the next seam there is, if the combs are spaced 1⅜ inches, a slab of solid honey 1⅛ inches thick. Now, with one or two layers of bees in each seam, and the seams 1⅛ inches apart, do you believe any number of such seams of bees can keep one another warm? J. L. Byer, backed up by all the Canucks he can trot out, couldn't make me believe it.

"Then you're calling all those Canucks liars, are you?" You wait a bit, and come down into the cellar with me. Look into the entrances of those hives. You see that there is a space of 2 inches between the bottom-bars and the floor of the hive, and you see that the cluster comes down so that a good part of it rests on the floor. By preference the bees cluster that way all winter long, food being passed down or else the bees changing places as they want to get at the honey. You can see from the size of the cluster that a good part of the colony is down below the bottom-bars. Now to that part of the colony I don't suppose it makes a particle of difference whether the cells at the lower part of the comb are filled with honey or empty. In some hives you don't see any such cluster, but the more I see the better I feel. A large part of the bees under the bottom-bars shows two thing: Plenty of bees, and plenty of honey.

Now take one of those Dadant hives with their immense combs filled down solid, and only a little more than a bee-space below the bottom-bars, and there isn't chance for enough bees to get together to keep each other warm, and when the cold is severe enough, and continues long enough, they'll be sure to fr—Mr. Abbott says they'll starve—never mind which, they'll die.

I wouldn't like to be dogmatic about it, but it looks at least possible that the difference in the views of the Frenchman and the Canuck lies in the fact that one allows space enough for a decent cluster below the bottom-bars, and the other doesn't. If it should happen that that Canuck should arise to remark that his bees have only a bee-space between floor and bottom-bars, then I can only meekly reply that I didn't know as much as I thought I did.

Since the foregoing was written Mr. Hasty's comment appears on page 827, and, acute observer though he is, he seems to think that when there are no empty cells the clustering must all be between and not under the combs. Give 'em room below, Mr. Hasty. Marengo, Ill.

2.—Dadant Methods of Honey-Production

BY C. P. DADANT.

THE next important step in bee-culture was the selection of the colonies from which to breed, for it was very evident, in reasoning from the experience of the masters, that we must not depend upon natural swarming, but must select our breeders. It was then that the different races of bees were brought to our notice. The Italian was the only race, outside of the common or black bee, that had been given a fair trial in America, and what had been reported about them was of a very favorable nature. So we bought a warranted untested queen for $5 from a Mr. Gray, of Butler County, Ohio, who had secured his stock from the very first importations of Father Langstroth. The bees were very fine, of bright yellow color, and rather a little larger than the ordinary common bee. But they showed very plainly the natural traits of the Italian. They were unmistakably superior to the common bees.

Let me here establish the known facts about the Italian bee. There has been too much in-breeding for color, and in many cases the original qualities of the bee have been neglected in order that the bee might show the very brightest tint of yellow rings and a display of bright color to the tip of the abdomen. The Italian bee in its native country shows three yellow rings, which vary from a bright orange yellow to a dull leather color. Occasionally a few bees are found that do not display the third yellow ring, the one farthest from the thorax, until the bee is full of honey. But the most positive sign of purity is their adherence to the combs when properly handled and their quietness under the same circumstances.

A hive of bees, when handled properly, may be taken entirely to pieces, and the combs may be carried about, without either causing the bees to fly or to run about or fall to the ground. In fact, Italian bees, if properly handled, and pure, always show themselves as docile as in a picture I saw lately, where were shown a couple dozen visitors each holding a comb covered with bees. In the exhibit they call these bees the "red-clover strain," but they are simply showing the characteristics of the pure Italian bees, which might all be appropriately called "red-clover" bees, for they often work on the second crop of red clover, probably when the dry weather causes the corolla to have become somewhat shorter than usual.

There are times when the common bee can work on red-clover also, but these occurrences are very rare. There is a desire on the part of queen-breeders to secure, by selection, a race of bees that may be able to gather honey from red clover; that is, a race with tongues long enough to reach to the bottom of the red clover corolla at all times. This desire is commendable, and is in the line of progress, but it will take a long time to get a fixed race with longer tongues, and thus far the selections have failed to secure anything permanent. The pure Italian bees can and do work on red clover oftener than the common bee, which shows that their tongue is longer than that of the common bee, and a constant selection for this purpose will sooner or later bring the desired result.

On the question of greater productiveness in a comparison between the common bee and the Italian, there has been a division of opinions, some people holding that the common bee does produce as much honey. Yet the majority of opinions is in favor of the Italians. The facts are that the difference between the two races is accentuated by bad seasons. The Italian race is more saving than the black, and in a poor season the bees of an Italian colony may have a good supply of honey saved up for winter, while the black colonies will be almost destitute. This was evidenced to us most forcibly early in the seventies. We had purchased a dozen colonies of bees in box-hives. We transferred all these bees in May to movable frames. Seven of the colonies were exceedingly strong, while the other 5 were comparatively weak and under average. We concluded to Italianize the weak ones because they would not produce honey anyhow, and they could still recuperate and be good for winter. But the other 7, which had very fertile queens, we decided to leave until fall, for we disliked to destroy those queens at the opening of the crop. Queens were high in price at that time, and our method of Italianizing was by the introduction of queen-cells from a pure colony, which always retarded the growth of the colony thus Italianized.

So we left the 7 colonies with their black queens till fall. The result of the season was bad. Many colonies had to be fed. But the 5 colonies which had been Italianized early gathered enough to winter, while the 7 powerful ones with black queens had to be fed for winter. This settled the question of comparison between the races with us. Since that time we have often noticed the same thing—a greater propensity to economy in the Italian race. We then began rearing Italian bees, and tried the importation until we succeeded, and, to-day, I strongly recommend to the beginners to breed from the Italian race.

There are other races of bees that have claimed the attention of bee-keepers—the Carniolan, which is only a very slight variation of the common bee; the Cyprian, a very active and high-tempered bee; and the Caucasian. None of these races has given a uniformity of results sufficient to recommend it, and the mild temper of the Italian is sufficient to give it the supremacy over all others. Besides, its markings (the yellow bands) enable bee-keepers to ascertain its purity, and for that reason I believe that I am right in recommending this bee to the beginner in apiculture.

I ascribe a part, at least, of our success to the use of Italian bees. In many spots the Italians are almost the only race existing—in Colorado, for instance. I visited many apiaries in Colorado and saw no bees there but the Italian. I believe this is a strong point in the success of Colorado bee-culture.

Hamilton, Ill.

Italians vs. Black Bees

BY E. W. DIEFENDORF.

On page 775 is an article by Allen Latham that greatly interested me. In the earlier days of our journalistic literature there was much battling over the respective merits and defects of the Italian-black bees, but the black went under, even though championed by such men as Lucas, Heddon, and Brown. After keeping the two side by side since early in the '60's, I finally discarded them about the year 1881. My experience that year was decisive. I entered that season with 25 straight Italians and 95 blacks and mongrels, and both races worked alike and for comb honey. By Sept. 1 the blacks and hybrids were all gone by dwindling, desertion, or death, except one colony, while the Italians were all populous and in prime condition except that some were too light to winter. I am not just certain of the date, but it was when A. I. Root was recommending grape-sugar as a bee-food, and I tried it that fall to my sorrow.

My experience has not been that "Italians run so easily to the black condition"—indeed, it seems to me after establishing these bees in four locations, widely apart and surrounded by nothing but blacks, that they scattered their yellow much faster than they took on the black. This has a bearing on that rapid-flight theory. In the case of Allen Latham's queens, there may have been a factor other than swiftness that caused two-thirds of his queens to mismate.

Many years ago the elder Muth explained the successful mating of his queens in his house-top apiary in Cincinnati, by assuming that the wing-tone of both queens and drones was on a different pitch in the two races, and stated in the same article that Italian worker-bees maintained their flight in the strong winds of that high situation more easily than the blacks. He was a very close observer.

In my own experience, queens of the lemon-banded strains (not goldens) are almost always purely mated, while of the orange-banded strains often from 3 to 5 percent are mismated, and it is a fact that the latter are the largest and coarser both in wing and body.

Again, if I breed from a colony a part of whose workers show but two bands, I expect about 50 percent to mismate. They still more nearly approach the black in wing-tone.

I do not remember that anyone has mentioned two traits peculiar to the blacks, that are of great practical value. They readily adopt any young queen just hatched (slipped quickly into the entrance), and allow her to kill the old queen at any time, provided a honey-flow is on. And when well-shaded, well-ventilated, with abundant super-room easily accessible, they are non-swarmers.

New Lebanon, Mo.

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Report for the Season of 1905

BY WM. STOLLEY, SR.

The year is nearing its end, and here is my report for the season of 1905, now passed. Four years in succession we have had wet seasons, but the summer of 1905 is on record with about 40 inches of rainfall within 6 months. While in times passed long ago drouth was the greatest drawback in central Nebraska, excessive moisture during the growing season seems to have taken its place.

For the apiarist the year of 1905 stands out as the worst in the last 26 years, with us—*i. e.*, as long as bees have been kept here. In the spring, and up to June 23, I fed my 36 colonies of bees 390 pounds of fall honey, and at that time they were in the best possible condition to take advantage of a copious honey-flow. Everything presented a favorable outlook.

From June 9 to the 13th I had 3 swarms out of New Heddon hives, but from the 3 colonies in my own large 14-frame (11½x11½) hives, run for extracted honey, no swarms issued, although each and every colony was, during the entire season, exceedingly strong in bees.

In the "decoy hives" on top of my bee-shed I captured 6 runaway hunger-swarms, from some farmers keeping a few colonies of bees—all hybrids.

All the surplus I took out of the supers was 640 pounds of extracted honey, leaving some colonies entirely without any stores in the brood-chamber. The 4 colonies in Heddon hives have kept all they gathered, and were allowed to carry it downstairs.

In September and up to October 1, I fed my bees (inside the hives, by tipping them backward and pouring in the warm, somewhat diluted food) 480 pounds of fall honey from 1904; 200 pounds of cane-sugar, and mixed with 180 pounds of water. Total, 860 pounds fed in 3 days. Thus my bees have, on an average, 35 pounds of winter stores, and some of them 40 pounds.

They all were packed for winter on October 15. (I winter them, as usual, in an open shed.)

The fall has been delightful, and the bees could fly almost every day up to yesterday (Nov. 29), when the thermometer registered 8 degrees, Fahr., and this morning 4 degrees, above zero. So I suppose that Winter has made his first bow to us, and I have settled down in my easy chair in front of my cherished friend, "the old wood stove," and say, "Go it, Gallagher!"

You see, I had no swarms to shoot down when dangling away up in high trees; have no trouble in caring for my surplus crop of honey procured this year; got rid of nearly all the fall honey that would not sell readily, by feeding it to the bees; nor have I to compete with the Colorado Honey-Producers' Association, which of late years has been raiding on us in our home markets in Nebraska.

I had about 1,500 pounds of nice honey left over from last year, which I now sell to my old customers at a regular price of 12½ cents per pound, in 60-pound cans, and 15 cents if sold in 5 or 10 pound pails; and those Colorado co-operators cannot take these customers from me if they try ever so hard. I would rather feed my honey to the hogs—if they would eat it—or I would give it away to poor people, or friends, before I would sell at a ruinous price.

When I come to think of it, I regret that I have not followed the advice of Editor Hutchinson, and started, years ago, a number of out-apiaries. Would that not have helped me out amazingly this year, since, as far as I know, not a single bee-keeper in Nebraska reports a fair crop of honey? No crop, but heavy feeding for winter seems to be the general condition. Next spring will find more empty bee-hives in Nebraska than ever before. I expect to winter my bees without serious loss. We will see if my prediction comes true or not.

Grand Island, Neb., Nov. 30, 1905.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Beginning Bee-Keeping in Texas

Mr. L. Stachelhausen, of Texas, was asked some questions which he has answered, and he has kindly sent both questions and answers as they may help others:

Ques.—In what county of Texas would you start to make a living keeping bees? Ans.—The whole southwest Texas is good for bees, but some counties are overstocked already, such as Bee, Karnes, Wilson, Bexar, and Uvalde. I would recommend a place south of Alice, between this town and Brownsville, where a new railroad is to be built. Other good places may be on the I. & G. N. railroad, between San Antonio and Laredo.

Ques.—How many colonies will it take, in an average year, to produce an income of say $500? Ans.—About 150.

Ques.—What price would I probably have to pay for full colonies, or for nuclei? Ans.—I do not suppose you can buy full colonies for less than $5 each. Nuclei are the regular price, which you can find out from dealers and queen-breeders.

Ques.—What is the price of unimproved land? Ans.—I do not know exactly the price of such land in the location I recommended to you. It may be $5 to $10 per acre.

Ques.—Is there any Government land that I could homestead in a favorable location for bee-keeping? Ans.—We have no Government land in Texas.

Ques.—What is lumber worth? Ans.—Lumber is high at present. The price is $22 to $24 per 1000 square feet. Dressed lumber is $30.

Ques.—Could I probably get work at house carpentering to help out a living while I would be getting an apiary on a paying basis? Ans.—The location I have recommended is a new settlement. New farm houses are built, so I have no doubt that a carpenter can get some work there.

Ques.—About what wages do house carpenters get? Ans.—A good carpenter can get $2 a day and board.

Ques.—Is the land suitable for farming without irrigation? Ans.—I think so, for cotton and corn, but artesian wells are used there for irrigation, and then truck-farming pays best.

Ques.—About what wages would I have to pay laborers if I wanted to farm a little? Ans.—In south and southwest Texas are many Mexicans who work very cheap—$1 to 50 cents per day, according to the season, whether much work is to be done or not.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

The Sisters at the National Convention

In spite of the fact that the National convention met at a time very unfavorable indeed to the sisters, being just before Christmas, there was a goodly number of the gentler sex present. It was indeed a pleasure to meet so many face to face—some new ones whose acquaintance I was very glad to make, and old friends with whom it was a delight to clasp hands once more.

Many, many times during the convention did I look around the hall and say to myself, What a bright, intelligent, clean lot of people are these bee-keepers assembled here!

I count myself very fortunate in meeting many whom I had long wanted to see, among whom were our Canadian friends.

One delightful thing about our convention was the fine hall in which it was held, much superior to anything we have had before. So often the hall has been too big and noisy; this hall was just big enough to accommodate the members, and everything that was said could be heard distinctly.

I believe that the sisters usually get the credit for doing the most talking. Not so at this convention; the sisters were the silent members, and yet the most delightful episode of the whole convention was the work of one of the sisters. To each of the associations—the National and the Chicago-Northwestern—a gavel was presented, made from the wood of a tree planted by Father Langstroth. These gavels were handsomely mounted in silver, the mounting being done by the donor herself—Mrs. John J. Glessner—who, besides being a bee-keeper and several other things, is an amateur silversmith. The woodwork was done by her son, J. G. M. Glessner. I think the sisters may well feel proud that it was left for one of their number to do such a beautiful thing.

Fitting of Super on Brood-Chamber

Dear Miss Wilson:—Must the super fit down tight over the brood-chamber? That is, is there any harm if there is a space on the edge of the frames, where the super stands, large enough for a bee to get into the top of the hive, or must the super fit so that no bees can get in the top of the hive?

I have Hilton hives, and bought some extra supers last spring, and a stranger told me that they did not fit tight, and that it was a mistake. Can you suggest an easy remedy if I must correct this space? (Miss) Elsie A. Cutter.

Grand Rapids, Mich.

If the case is correctly understood, the super is not quite large enough to cover fully the top of the hive, leaving a space large enough so that a bee from outside can get through above into the hive. There will be no trouble as to bees getting in, for the bees of the colony will fully guard any such opening against the entrance of any intruders. Neither will a small opening of that kind be any hindrance to the working of the colony if they are worked for extracted honey; but at least a little harm will result if they are worked for comb honey, for on cool nights the building of comb will be hindered by the entrance of cold air, and you will find the progress of the work retarded a little at that point. You can close up the entrance by laying a little strip of wood there. Better still, nail the strip on the super.

Now it is possible that the case is not correctly understood, and if so don't fail to give further particulars, and it will be a pleasure to try again.

Several Eggs in a Cell—Clipping Queens—Painting Hives—Moving Bees—Foul Brood Questions

1. What makes a queen lay as many as 6 eggs in a cell and yet plenty of empty ones in the brood-nest?
2. Is cotton-seed meal a good food for bees?
3. Does it injure a queen to have a wing pulled off?
4. Can I paint my hives after I have put bees into them?
5. Is it safe to move bees with the hive-entrance closed and a brood-chamber on top with empty extracting-combs? Would they get air enough?
6. Should a queen lay during winter, keeping a little brood on hand all the time?
7. Is it a good idea to give a queen from a foul-broody colony to healthy bees?
8. Is it a good idea to give foul-broody bees to a clean and healthy queen?
9. What would be the result if foul-broody bees and queen were to enter a hive that was not strong with bees?
10. Would they kill the queen of the weak colony, or would they kill the intruder, or both queens?

Garrett, Tex. MRS. CARRIE BRANCH.

1. When more than one egg are found in a cell, laying workers are to be suspected. In rare cases, however, a good queen has been found laying two or more eggs in a cell while plenty of empty cells were present; just why, no one seems to know. But she generally gives up that sort of foolishness after a time.
2. It will probably answer in place of pollen at a time when bees can fly freely but can find no pollen. Indeed, at such a time any kind of meal that cattle will eat seems to answer.
3. It would hurt you to have one of your finger-nails pulled off, but it wouldn't hurt to have it cut off. About the same with a queen's wing. Thousands of queens have their wings cut off, and are just as good as ever for laying; only they can not fly with a swarm.
4. Yes.
5. That depends. With a very strong colony on a hot day, the colony might be ruined if confined long enough. In cold weather they would stand a long confinement without harm.
6. In the North a queen stops laying in the fall, sometimes even in September, and does not begin again before the next February or March if outdoors, and likely not till April if kept in cellar. In the South the idle time is shorter.
7. It is generally claimed that the queen does not carry the disease.
8. No.
9. They would in all probability carry the disease with them, whether they entered a weak or a strong colony.
10. The intruding queen would likely be killed; possibly both.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

GETTING PARTLY-FILLED SECTIONS CLEANED.

The woes of Miss Wilson and Dr. Miller trying to make bees clean up honey, interest me. Their bees seem to be very like my own bees in that contrariness. Here's a scheme that succeeds with me: Break the cappings, if there are any, and pile the sections on the alighting-board shortly before sundown. They'll take in part during the night; and next morning when bees from other hives begin to pester them, they'll first stand them off and then proceed to take in the rest of the honey. Lean up a wide board to keep off a chance shower—and to give some air of private property to the pile. Scheme only to be used by skillful operators on colonies well able to defend themselves. Page 810.

BARB-WIRE FOR APIARY FENCE.

Glad to get so soon an experience of 5 years with hives next barb-wire fence for stock to graze the front. Verdict of T. P. Robinson favorable on the whole. Not a remedy for certain big weeds. Not very satisfactory if the amount of grass in the pasture is superabundant. Covers displaced sometimes. I should say put on some short lengths of extra wire adjacent the hives, and set the hives closer up. Page 812.

BEES PRODUCE "TONS" OF HAPPINESS.

There, now! That would have let me out nicely—that astonishing yield on page 812. A crop of 29 tons; and often carried (doubtless) in a mere fraction of a single railroad car. Happiness. The Professor. He didn't get it all. Wade right in, gentlemen, and harvest a ton per hive for yourself.

SUGGESTIONS FOR NATIONAL ELECTIONS.

Our Editor certainly gets in one heavy blow in the election controversy. Can't vote against a Secretary without shoving impoliteness right in his face. How would these additions do? The Secretary shall designate some convenient and suitable person to receive and count the vote and destroy the ballots—except when he has refused to accept a re-election. Consecutive third terms shall not be allowed for any office. The latter would simply be taking a hint from the unwritten constitution of our Nation. If adopted, all questionable and aberrant devices to secure rotation might be dropped. Page 822.

QUESTION-BOX AT CONVENTIONS.

As to what part of the convention time the question-box should take, of 28 experts 4 dodge the question. Those who name one-half (with those who apparently agree thereto) are 9 out of 24. Those who name less than one-half are 5. Those who favor more than one-half are 10 out of 24. Page 822.

QUALITY OF SWEET CLOVER HONEY.

As to the quality of sweet clover honey the consensus at the Chicago-Northwestern seemed to be, A very excellent honey, *but*—. Had the goat been there he probably would have done so. Page 825.

MR. CLARKE'S APIARY—RIPENING COMB HONEY.

That picture of the Clarkes and their apiary, with which No. 49 opens, moves me once more (for the thousandth time) to wonder and thankfulness that we can have for our regular journalistic diet such beautiful photographic reproductions. Could almost shut my eyes and disbelieve the whole thing even now. Not only nice picture, but nice apiary. Mr. Clarke evidently believes in large entrances. Wonder why his hives have such big, projecting tops. I'll guess at random that these tops enclose some kind of packing in winter—and in summer are made to serve in lieu of shade-boards. If these bees never sting kindergarten children, when they come trotting in to see things, then what's the use of Caucasians? The other picture seems to show that at racking up sections to ripen them off Mr. Clarke leads the whole host. That's the way to do it. None of your solid piles. No, sir. Twenty pages of print would not argue as strongly as that picture does.

"Snuffs" at "Canadian Beedom."

Aha! A new department—and a new brother conductor. A noted writer once wrote that when a new dog comes around the previous dogs always snuff him, and nip at him—and that men are just so, too. So just wait till I get a good chance unseen, while he is passing the canine "time o' day" with Dr. Miller.

Ah, here! Inadequate transportation, several months of summer starvation, ants of the raging lion persuasion, honey 2½ cents a pound, and average yield 25 pounds per colony—a pretty style to start in and give Canada away. Or wasn't it Canada? Jamaica, do I hear? Well, it's under the same flag, anyhow. And there's a mighty bright and enthusiastic bee-writer down there. We might wait till he takes a nip at our tenderfoot's tender spots. But, say! there was another ancient feller who said something about "Birds in their little nests agree." On the whole, seeing "We be brethren," perhaps little birds in their nests are better examples for us than the dogs at the back door. Page. 839.

How the Skunk Works Around Hives.

C. W. Dayton thinks a skunk works at the same colony nightly for several weeks—until it is too weak to send out a good force when he scratches—and then frequents another colony the same way. Possible. The ill-savored vendor of essences is mean enough to do so. Page 841.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Size of Entrance for Outdoor Wintering of Bees

I have had some bitter experience with small entrances this fall, which goes to show one of the great disadvantages of being miles away from your bees. The hive-entrances in one yard were contracted to prevent robbing early in the fall. Later, when that danger was past, they were not enlarged. Result: Many bottom-boards choked with dead bees at the time of putting them into the cellar, and indications of bees not having had as good a flight recently as they might have had. I am free to endorse all that "York County Bee-Keeper" and the editor of the Canadian Bee Journal say below:

"After experimenting with different sizes of entrances, I am thoroughly convinced that for our latitude, in outdoor wintering, a fair-sized entrance is necessary for best results, and this winter nearly every one of my colonies will go into winter quarters with entrances equivalent to 5 square inches.

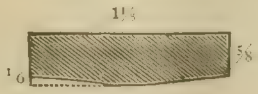
"One of the disadvantages of small entrances, especially for out-yards, is the liability of them getting clogged with dead bees, and when this happens with a strong colony for any length of time, mischief is pretty sure to follow. Aside from this, for reasons I can not explain, the colonies with large hive-entrances invariably winter best with me, provided, of course, they go into winter quarters strong in numbers.

"[Last season we made some experiments with small entrances for outside wintering, and we do not wish to repeat them. In our experience, small winter entrances are regular death-traps to populous colonies. Our best results have been with full-width entrances, 12x⅜, bridged over to meet the outer case. Probably a deeper entrance, contracted in width correspondingly, might be better.—Ed.]"

Fastening Comb Foundation in Frames

With reference to fastening comb foundation in frames by means of a saw-kerf in the top-bar (page 838—1905), my father, S. T. Pettit, used a groove in the underside of the top-bar ⅛ inch deep and ⅛ inch wide. Holding the frame upside down in the left hand, he would slide the upper (now lower) edge of the foundation into this groove, allowing the sheet to lie against a guide-board (the wires of the frame would do, but he did not use wires). With spoon bent at the point to a narrow spout, he poured melted wax along the top-bar to fill the groove and cement the foundation fast to the wood.

When I got the Alpaugh hot-plate foundation fastener this groove was done away with, and since then my top-bars have been smooth underneath. We have, however, what is not a bad idea—a ⅙-inch double bevel to the underside of the top-bar to make it conform to the pitch of the cells when the comb is built. A ⅛-inch strip down the middle is flat for fastening the foundation. So the cross-section of the top-bar is like this illustration.



I consider the flat surface and the hot-plate fastener about the most economical arrangement for putting in foundation, as regards expense of frame, wax and time. It has also the great advantage over any other style of top-bar—a smooth surface, easily cleaned when poor combs are to be cut out of the frames and replaced by foundation or starters. If the edge of the foundation is not straight, the hot plate soon straightens it, the only difficulty being when the foundation has no width to spare. With Weed-process foundation, well wired, there is so little sag we like it to come within a quarter inch of the bottom-bar, and just to touch the end-bars.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Smell of Tarred Paper and Bees

I wrapped 28 colonies of bees in tarred paper, placing the hives in pairs and enclosing them entirely except the front, which is not covered at all. Do you think the smell of the tar would do any harm? Wisconsin.

Answer.—Not a bit.

Queens by Mail vs. by Express in Nuclei

1. Having had bees for many years I often sent for queens to improve them. I received two queens—one a Cyprian and one a Carniolan. Later I received queens from others. After getting the bees well mixed up, about 1895 I sold some to a neighbor, 1½ or 2 miles distant. Since then I have had other queens from some other breeders, and of late I could not get a queen to go ahead of the ones I had. Only queens reared from larvæ sent by express in nuclei from New York State went ahead of any queens I had. But none did that came through the mail. Now the man who bought my bees sent for no queens; bought no new stock, but just let them swarm, and for color, strength of colonies, storing honey, and wintering, they appear ahead of the bees I have and tried to improve. How do you account for this? I looked at some of his queens this season and found them large and yellow, and, I thought, thicker in the abdomen than generally found.

2. Do you think that queens that come through the mails are as good as those not caged? Pennsylvania.

Answers.—1. I know of no way to account for it except that the strain of bees your neighbor got from you were actually superior to any you received later. That might happen in more than one way. It might be that in one of the earliest purchases you got a queen superior to any queen you purchased later, and it might happen, even if it were only one chance in a thousand, that the direct progeny of this queen, unmixed with any other blood, was the stock your neighbor got. Again, it might happen that in the various combinations or crosses occurring from the mixing of the different races, there was one particular queen that was an improvement over all predecessors, and that your neighbor happened to get that particular queen. No rule, however, can be based on such a supposition, for you might go on for a lifetime and not have such a thing happen again.

2. Certainly, it would not be safe to suppose that a queen will be improved by a journey through the mails. She may not be injured at all by such a journey, and the injury may be serious. Even in a case where a queen is greatly injured by being mailed, she may be a very profitable investment. Suppose you have a strain of very poor bees, and you order a queen of a strain of bees that will store double as much as your bees. She is so badly injured in the mails that she is slow about beginning to lay, lays very sparingly, and gives up the ghost before you have had her a month. All the honey stored by her progeny, if sold at a high price, will not amount to as much as you paid for the queen. If you figure merely on the honey stored by the colony into which she was introduced, the purchase of the queen was a losing operation. But that isn't the only thing to be considered. Even if she lays only a very few eggs, if you are lively about it, and from those few eggs rear enough queens to requeen all your colonies, that stock may be just as good as if the queen had never been injured in the mails at all, and as a consequence you have just doubled your future crops. In other words, the injury of a queen in the mails does not necessarily injure the stock reared from her.

◆

Preventing Honey from Candying—Do Bees Prefer New to Old Sections?

1. I have some extracted honey from colonies that were killed about Oct. 15. It candied right after extracting. What could I have done with it to prevent it from candying so soon?

2. Some of it was put up in pint jars. It candied and became sour. It was kept in the kitchen cupboard. What was the cause of the souring?

3. When putting on supers when the honey-flow commences, will the bees enter new sections sooner than some that were kept over from last year and daubed with propolis?

WISCONSIN.

ANSWERS.—1. It is not always an easy thing. For some reason there is a difference in honey itself as to candying. And yet the treatment may have something to do with it. Frequent stirring of honey hastens granulation, so everything in that line should be avoided if you want the honey to remain liquid. If you have 10 pieces of comb honey, and extract the honey from half of them, you will probably find that this extracted honey will candy sooner than that left in the comb, the agitation of extracting tending to hasten the change. Possibly you might also help by keeping the honey at a temperature of 100 degrees or more, allowing free evaporation at the same time, so as to ripen it.

2. The thinness of the honey was enough, no doubt, to account for souring. You can make vinegar of honey any time by making it thin enough, exposing it to the air, and keeping it at the right temperature. But if the temperature be high enough, instead of souring it will evaporate and ripen.

3. That depends altogether upon the condition of the sections. Not of the wood, but of the comb or foundation in the sections. The wood may be clean, or it may be well covered with bee-glue; that doesn't matter either way. If the comb foundation be entirely clean, you will probably find that the bees will accept it as readily as that which has never been on. If the comb has been drawn out, partly filled, and then emptied, you will find that nice, clean combs of this kind will be accepted more readily than fresh foundation. But if any bee-glue has been put on the foundation or comb, the bees will not like it so well. I have known foundation in sections that had been left on in the fall to be so thoroughly varnished with bee-glue that the bees utterly refused to accept it.

Reports and Experiences

Robber-Bees and Late Swarm

The following experience with robber-bees is different from anything I have seen before, though it may not be out of the ordinary with others:

During the first week of November I came across a colony of bees very weak, and I suspected they were queenless. I only stopped long enough then to slip in a frame of sealed brood fairly well filled, which was handy. A few days later—perhaps the next week, some time—I went to look at it, and found, as I suspected, that it was queenless and with very few bees except what had emerged from the frame I had given a few days before. I prepared a place to put in another frame of brood, and started to get it, but before I found one to suit me my attention was called off for a short time, and when I again looked at the hive I found it being robbed most furiously. I found I had not fitted the cover down tight, and the bees were pouring through a little crack I had left. I closed down the cover tight, and closed up the entrance so *no* bees could get in or out, and narrowed down the entrance of the near-by hives to a space for one or two bees at a time, and the furore was soon over outside, but the hive was full of roaring bees. I then slipped the cover off, and as I did so I slipped on a skeleton frame covered with screen cloth, that would give air without allowing the bees to escape. On top of this I put an empty hive with a single frame of honey in it.

On the last day of October I came into the yard and found a little swarm of less than a pint of bees settled on the side of a hive, and on poking them apart a little with my finger, I found a virgin queen in their midst, and (by the way, this is one better than is referred to by Mr. Hasty, on page 779) I hived them for the time being in a little baby-nucleus box with 2 frames one-sixth the normal size, not thinking just what I would do with them. I took this little box, and lifting off the cover to which the little frames were attached, and put in with the little box (detached from each other) in the empty hive with the single frame of honey, and over the screen, covering the hive full of bees below. I left them thus until just before it was too dark to see on the third day, when I found the little swarm almost all on the frame of honey, queen and all, a few bees crawling around on the screen. I lifted everything off the bees below and slipped the frame of honey, bees and all, down into the space I intended for the frame of brood, and shook the rest of the bees into the hive, opened the entrance and swept out a small double handful of smothered bees.

The next day, or next but one, I looked in the hive and found a good, fair colony of bees, and a nice young queen, where a few days before there was only a little handful of bees and no queen, all seeming contented and at home. This was about Nov. 16 or 17. Again on the 24th I looked in and found the queen laying nicely.

We are having more or less warm weather almost every day, and having plenty of honey they promise well. About 3 inches of rain the 5th, 6th, 7th, and part of the 8th of this month, has pushed mahogany blossoms out until the bees are working on them.

Lusardi, Calif., Nov. 27. A. J. BURNS.

A Beginner's Report

I began keeping bees last spring, having purchased a colony the fall previous, but not getting them home till in February, I was not a bee-keeper in practice till that time. I increased with the advice and help of a neighbor bee-keeper to 2 colonies during the summer just past, by dividing; but in dividing we only divided the bees, and did not change the queen to the newly-made colony, and we did not wait till they had queen-cells started in preparation of swarming, so only gave them a frame of brood from which to rear a new queen, and of course got nothing from that colony, as by the time they had a new queen and enough bees to work any it was too late to gather anything. But I got perhaps 25

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pounds of section honey this year, it being a very poor year for honey, so the old bee-keepers say, perhaps one-third of a crop.

I also found a bee-tree on a neighbor's farm, buying it for 75 cents and putting the bees in a frame hive, and then I bought another colony, making 4 in all, which I am wintering on the summer stands, but I had to feed all of them, as they did not gather enough this fall to winter them.

I decided when I began bee-keeping to adopt the Danzenbaker hive, but I have changed my mind, and will try the dovetailed, as I think the latter has the most good points in its favor.

I am a subscriber to 7 bee-papers, and think a person can not get too many; also I have a few bee-books, and intend to get the rest as soon as possible.

This is not a very good bee-country, but I think I can do better next year by using better management.

Honey usually sells in the grocery stores here for about 10 cents per pound or section, but it is in very poor shape, as the majority use no fences, and some sections of honey are big and some small, and I do not know of any extractor in the country. There are perhaps 50 colonies of bees within a circle of 5 miles of me. The chief source of honey is alfalfa, white clover perhaps next, and smartweed and corn. JOSEPH W. JACKSON.

Blaine, Kan., Nov. 27.

Results of the Past Season

Reading Prof. Bigelow's report encouraged me to send mine. I started last spring with 3 colonies, and found several bee-trees during the summer; these I cut down and transferred the bees. I bought a few colonies in box-hives, and had all together 13 colonies. At the close of the honey season I discovered some of the colonies were short of stores, and some were too weak to winter, so I united down to 9 colonies. I procured quart cans with friction tops (such as table syrup is sold in), punctured the tops full of fine holes with a darning-needle, and had a very good home-made feeder. I fed the needy colonies sugar syrup in the proportion of half and half, just at nightfall. They would carry it down during the night, and in a few days would have it nicely sealed. Only 2 colonies gave any surplus. This surplus I placed over needy colonies, and by isolating it from the brood-chamber with a quilt with a small hole in one corner, I got them to carry it down into the brood-chamber.

I think I got a few more stings than Prof. Bigelow, also I got scared so badly several times that I don't think I will ever grow any more. The worst part of it is I am still hungry for honey. If I could have gotten a little for my injured feelings I could have overlooked the stings and scares. I think I feel something like the boy that put his fist into the bumble-bees' nest where there was no honey. However, I think I will "try, try again," and live in hopes if I do die in despair.

I have the bees on the summer stands with cushions filled with forest leaves packed above the brood-frames.

We are having delightful fall weather, and the bees are flying nearly every day. The wet fall we had has favored the white clover so it is going into the winter in prime condition. The subsoil is stored full of water, so with anything like a favorable spring I look for a fine crop of clover next year, and, incidentally, some of my honey that I didn't get this year. FREEMAN DAVIS.

Center, Mo., Nov. 26.

CONVENTION NOTICES.

Nebraska:—The annual meeting of the Nebraska State Bee-Keepers' Association will be held on Wednesday, Jan. 17, at 2 p.m., at the Experiment Station Building of the Nebraska State Farm, at Lincoln, Neb. The meeting will be of interest to all bee-keepers. E. Kretchmer, of Iowa, will read a paper on "Bees and Fruit;" H. F. Smith, Assistant in Department of Entomology of the University of Nebraska, will read a paper entitled, "The Relation of Robber-flies and the Honey-Bee." A general discussion will give all present an opportunity to discuss subjects of interest.

Lincoln, Neb. LILLIAN E. TRESTER, Sec.

Minnesota.—The 11th annual meeting of the Fillmore Co., Minn., Bee-Keepers' Association will be held in the Court House at Boston, on Wednesday and Thursday, Jan. 17 and 18, 1905, beginning at 1 o'clock p.m.

Canton, Minn. P. B. RAMER, Sec.

Colorado.—The Colorado State Bee-Keepers' annual convention will be held in the Chamber of Commerce Building, Denver, Jan. 30, 31, 1906. This will be during "Farmers' Week," when many farmers' organizations will be in the city holding conventions. We are assured of low railroad fares from all points of the State. We are planning for our usual good convention. R. C. AIKIN, Sec.

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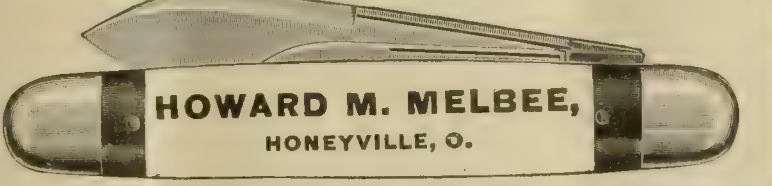

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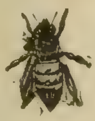

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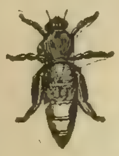

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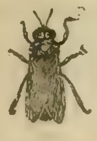

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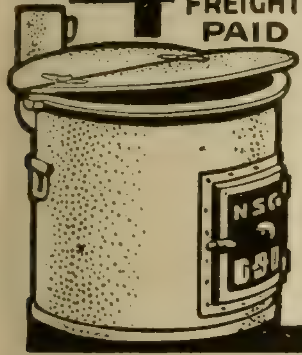

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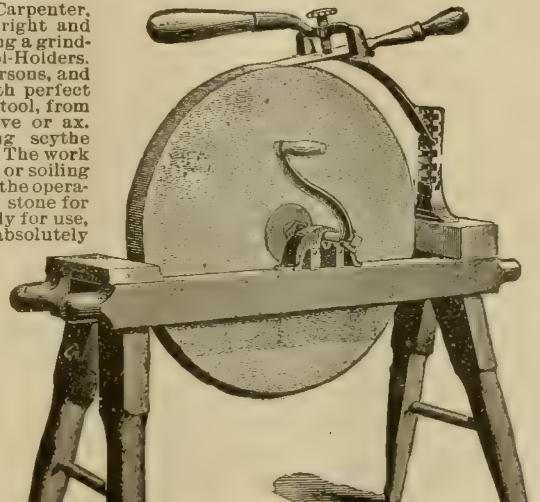

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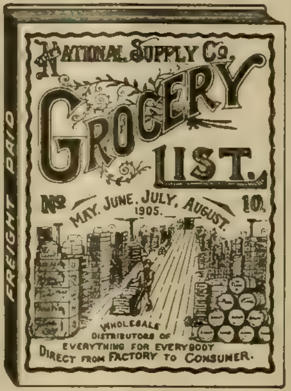
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CINCINNATI, Dec. 29.—There is no demand for honey at the present time, on account of the holidays. However, prospects for the coming year are bright, and we are looking forward to a revival of trade about Jan. 15. The price of comb honey remains firm: we quote fancy white at 15@16½ cents. Extracted: amber in barrels at 5@6½c, according to the quality; fancy white in 60-lb. cans at 7½@8c; amber in cans at 6@7c, (The above are our selling prices of honey.)

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NEW YORK, Dec. 6.—The demand for comb honey continues to be fair for all grades. Prices practically remain the same. We quote fancy white at 14@15c; No. 1 at 13c; No. 2 at 12c, and buckwheat at 10c per pound. Extracted honey is in good demand, especially California honey with large supplies. We quote white at 6½@7c; light amber at 6c; buckwheat, extracted, at 5½@6c per pound; Southern at 50@60c per gallon. Beeswax firm and steady at 29@30c per pound. HILDRETH & SEGELKEN.

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AMERICAN BEE JOURNAL

46th Year. CHICAGO, ILL., JAN. 18, 1906. No. 3.

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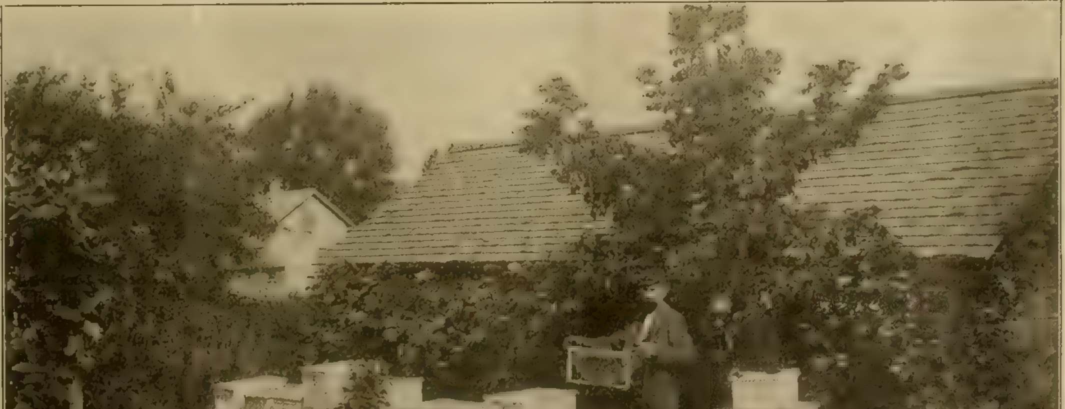

APIARY OF EUGENE U. PORTER, of Waterloo, Wis.—(See page 46.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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(INCORPORATED)

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2. To publish facts about honey, and counteract misrepresentations of the same.

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Do not fail to write for SAMPLES of our Foundation, Descriptive Catalog, PRICES and DISCOUNTS, stating Quantity of Foundation wanted. Wax to be Worked, and List of other Supplies, and Prices will be accordingly. Beeswax always wanted.

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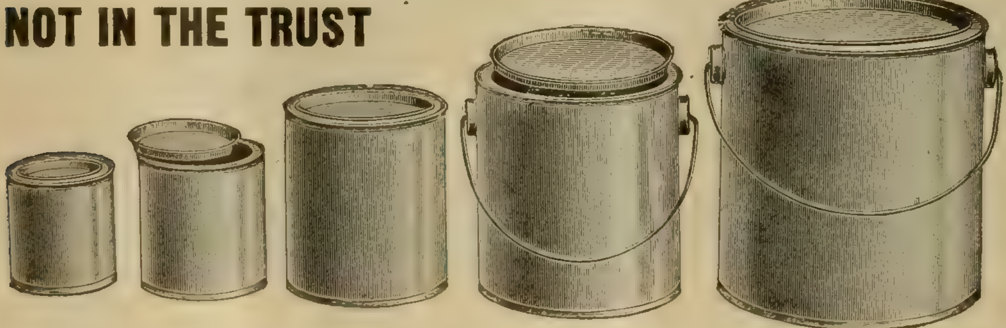

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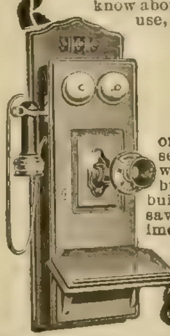
STROMBERG-CARLSON TELEPHONES

or not you will be in possession of information which will enable you to buy the right telephone, build the right line and save unnecessary experimenting. We send it free.



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A Complete Establishment

We say that we can supply **EVERYTHING** for the bee-keeper. It **IS** a **LITERAL** fact. Anything from bees to books, or hives to honey-boards. The completeness of our factory is not realized by most bee-keepers. Below we give the main Departments of our business. Read them over and then we are sure you will understand when we say **EVERYTHING** for the bee-keeper, we mean it.

WOOD-WORKING DEPT.

This department occupies the 3 floors of the main building of the factory. It is equipped from top to bottom with the best machinery that brains can invent and money buy. Every detail in hive-making has been carefully figured out. Immense sheds covering acres of ground protect the lumber piles so that shrinkage is reduced to almost nothing. This accounts for the accurate fitting and clearness of stock of Root's wooden wares. The entire factory, light, and machinery power, is furnished by a great, 400 horse-power engine, and a 100 horse-power dynamo.

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We are leaders in buying wax and selling the famous Weed Process Foundation. Our Wax Department is furnished with tanks for refining, machines for sheeting, all sizes of mills, automatic papering machines, etc. Over 150,000 pounds of foundation is made, boxed and shipped all over the world every year.

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Here are made the thousands of smokers that bear the Root trade-mark of excellence. Here are made the cans for extractors and uncapping-cans. Machines for cutting honey-boards; presses for stamping tin and iron into various forms.

MACHINE SHOP

Equipped with the most expensive machinery and manned by skillful employees. We make our own metal parts and much machinery for other factories. Powerful iron presses, iron cutting and drilling machines are in evidence everywhere.

APIARIES

We have scattered in and around Medina 5 apiaries devoted exclusively to bee and queen rearing, supplemented by 5 more in New York, Pennsylvania and Cuba, and we control the product of several other large queen-breeding establishments. Our queens are bred with scientific care. We test every device we make before it is introduced to the public.

SHIPPING DEPT.

Two railroads run their cars to our doors. From a dozen to 20 men are kept busy loading and packing the 175 to 200 carloads we ship every year, besides the thousands of less than carload shipments. Eight express trains a day. With large warehouse packed full and a great factory it is a little wonder that Roots have gained a reputation for promptness in filling orders for the hundreds of things in their catalog.

PRINTING DEPT.

Two large cylinder presses; 3 platen presses; paper folder, trimming, cutting and stitching machines; skilled typesetters, printers, book-binders—all help to turn out semi-monthly the large issues of Gleanings in Bee Culture; the five to ten thousand A B C books every year; together with our 500,000 supply catalogs, not speaking of the numerous other catalogs, booklets, labels and all varieties of printing. Two carloads of paper required for our annual catalog, a half carload for our Christmas Gleanings alone.

BRANCHES AND AGENTS

Eight branches with large stock in all great centers. Numerous jobbing agencies and hundreds of smaller agents place our goods at your door at factory prices, with freight charges and time taken in shipment reduced to the lowest possible point. We wonder if the bee-keeper ever thinks of the many hands and brains that plan for him? Of the hundreds of thousands of dollars, and the hours consumed to make and deliver his supplies?

OFFICE

The office is the brain of the factory. Here are the executive, editorial, advertising and book-keeping heads. Here the thousands of details are cared for. Root's office is as modern as you can find anywhere. Six typewriters are kept busy; adding machine, copying machine, vertical letter files, card indexes, etc.—everything to care for the half million dollars worth of business we do yearly. We have every interest of the bee-keeper at heart. We are working for your good, for your prosperity means ours.

Our Catalog for 1906 is ready. Write for a copy if you want it now.

## THE A. I. ROOT COMPANY, Medina, Ohio

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THE AMERICAN BEE JOURNAL

Oldest Bee-Paper in America

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter)

Published Weekly at $1.00 a Year by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 18, 1906 | Vol. XLVI—No. 3

Editorial Notes and Comments

Queen-Breeders' Catalog.—We have received the following from the Department of Agriculture at Washington, D. C.:

> Inquiries frequently come to this office for the names of queen-breeders of various races and strains of bees, and, in order that reliable information may be given, I am preparing, in co-operation with the American Breeders' Association, a catalog of queen-breeders.
>
> There is a catalog of considerable size in this office, but in order that no queen-breeder of any importance be omitted, I would respectfully request all breeders, having 100 or more queens for sale annually to the general public, who see this notice, to send me the following information as accurately as possible :
>
> Races bred. Annual output of each race, and number of mating yards.
>
> For my personal information I should be glad to learn the method of queen-rearing used, the number of breeding queens of each race used, and the number of colonies in each yard from which drones are allowed to fly.
>
> Hereafter, all persons requesting information concerning dealers in any strain will be given the names of the 4 dealers nearest to the address of the enquirer. This will, I believe, be a fair way of giving the information without favoring any breeders, and will repay the breeders for their trouble in answering these questions.
>
> E. F. PHILLIPS,
> *Acting in Charge of Apiculture.*
>
> Department of Agriculture,
> Washington, D. C., Jan. 8.

* * *

Dr. O. M. Blanton, of Greenfield, Miss., has been writing for a local newspaper something both interesting and helpful to its readers on the subject of comb honey. He writes :

"It is astonishing how people are imposed upon by the most extravagant practices, and from the most ignorant and unprincipled sources" concerning honey. "It is surprising to find how few persons know the qualities of honey."

One buyer of some of Dr. Blanton's honey told him that it was not honey, because it granulated, and his (the buyer's) negro cook said it was sugar! Afterward the Doctor heard that this same customer said that the honey was adulterated with sugar. It is probably impossible to prevent entirely everybody from making misrepresentations concerning any producer's honey, for there likely will always be those who misrepresent by speaking out of their abundance of ignorance. The best the honest honey-producer can do is to put on the market only the very finest and best article, and let it sell on its merits.

Of course, whenever opportunity offers it is a good thing to try to correct the misrepresentation concerning comb honey that has been circulated for so many years by the newspaper and magazine press. But it is surprising how large a majority of people really believe that comb honey has been been made without the aid of bees, and put upon the market in large quantities. Of course, nothing can be further from the truth than such a statement, as all the practical bee-keepers know.

* * *

Mr. Ernest R. Root, recently elected as a Director of the National Bee-Keepers' Association, has resigned, taking, as he says, his wife's advice. He says further :

> "This action is not based on any dissatisfaction with the policies of the National, nor toward its officers. Indeed, I most heartily approve of that magnificent organization, and shall do all I can to help it."

We have not as yet learned who is to be Mr. Root's successor. As Illinois has the largest membership of any State in the National, but now no representation on the Board of Directors, we would respectfully suggest the selection of Mr. Jas. A. Stone, the able Secretary of the Illinois State Bee-Keepers' Association, and also a very successful and well-known bee-keeper.

* * *

Saving at the Wrong Place.—A New York bee-keeper wrote us as follows last month :

> "Owing to the low price of honey and high price of bee-supplies, I am obliged to cut down expenses, so please discontinue sending me the American Bee Journal."

On receiving and reading the foregoing, we naturally were inclined to think that the writer of it was beginning to cut expenses at the wrong place. There are bee-keepers who are making money at the present price of honey and bee-supplies, and we believe that the American Bee Journal is helping them to do it. In order to meet competition these days it is necessary to know all possible about one's business. There are many short cuts that are freely given to the readers of every bee-paper, and just how any one expects to succeed better in bee-keeping by saving two cents per week in dropping the American Bee Journal, we cannot understand. It seems to us that if, as our former subscriber says, the price of honey is low and bee-supplies are high, he would need all the help and information that he can get in order to win success. It may be possible that he could very easily cut off a dollar's worth of bee-supplies annually, or something else, and thus not deny himself the pleasure and profit of reading the American Bee Journal each week during the year.

Within the past year there have been a number of contributions in our columns telling how to manage to realize more for the crop of honey; also, there have been special offers of bee-supplies in its advertising columns which, if patronized, would have saved many times the price of a year's subscription. So if a bee-keeper discontinued reading the American Bee Journal a year ago, he would have failed to have seen the contributions and advertisements referred to, and thus would have lost the opportunity to learn how to get more for his honey and also where to get certain bee-supplies at a special rate. By taking advantage of both lines—getting a higher price for honey, and buying bee-supplies for a lower price—he would douubtless have been quite a good deal further ahead at this time than he was a year ago.

However, as mentioned before, it is quite natural for us to think that every honey-producer should read the American Bee Journal regularly. The fact is, anyone who is at all interested in bee-keeping, and desires to make the most out of it, must see that there are many times two cents' worth of information in every number of the American Bee Journal. We are satisfied that we are giving good value and full measure for every cent that is paid us on subscription for the American Bee Journal. By readers and publishers working together, we will not only be mutually benefited, but will help to extend and uplift the cause of bee-keeping as the years come and go.

* * *

The Shawler Apiaries.—On the first page are shown almost in miniature the apiaries of Mr. and Mrs. Shawler, of Mills Co., Iowa. Mr. S. wrote us as follows, Dec. 3, 1905:

> I send two pictures, one of my apiary, and one of my wife and her queen-rearing apiary. This picture was taken in the height of the honey season, and it can be seen that the hives are 4 stories high, and sometimes I have some of them 5 stories high.
>
> I began in the spring with 43 colonies, and took off 6500 pounds of extracted honey, besides increasing to 80 colonies. I had no natural swarms. I sold all of my honey for 7 and 8 cents a pound.
>
> I will give an account of what I did with bees the preceding 2 years: In 1903 I had 15 colonies, and took over 6000 pounds of honey; and in 1904 I had 31 colonies, and took 4600 pounds. In the last 3 years I did not have a natural swarm, and an important thing in my success in getting large crops of honey, was in having good queens. I have never lost a colony of bees in winter.
>
> I take three bee-papers, and could not do without any of them. They all fill their places. T. L. SHAWLER.

* * *

As to Improved Spelling.—Referring to the attempt for a time on the part of the American Bee Journal to make some changes in the evil spelling of our language, changes advocated by many of the best authorities in England and America, the American Bee-Keeper offers its congratulations on the return to the old method of spelling as a "happy awakening." Truth obliges the confession that it was hardly "an awakening," but rather a going to sleep again, the weight of the American Bee-Keeper and so many others being so strong against even a little improvement in our abominable spelling that it seemed useless for the few who had waked up to resist, and so they again fell asleep, awaiting the "happy awakening" sure to come in the future when a crusade for improvement will be started by a larger number.

The American Bee-Keeper is to be congratulated that there are not lacking signs that it is ready to start a crusade on its own account, as witness the following changes in spelling in its last number: Alright, Norweigan, extraced, emergeance, cradel, nonpariel, privelege, destinction, irridium, judgement, livlihood.

Success to you, good contemporary, in every effort at real improvement.

* * *

A Stem-Winder Convention.—The American Bee-Keeper says: "The Chicago convention is said by those in attendance to have been a 'stem-winder.'"

Yes, it was a stem-winder, full-jeweled, up-to-date in general.

* * *

Corn Products Refining Company.—An advertisement announces that the Corn Products Refining Company will be organized under the laws of New Jersey with a capital stock of $80,000,000. It will own the New York Glucose Company and several other companies. There must be considerable doing in glucose to need a capital of eighty millions.

* * *

The Apiary of Eugene U. Porter appears on the first page. When sending us the photograph, Dec. 11, 1905, he wrote:

> I obtained about 200 pounds of comb honey from 7 colonies, spring count. I now have 15 colonies, and have fed 50 pounds of sugar. I have just put them into the cellar for the winter. We had a very poor honey crop here this year, as it was too cold and wet all summer.
>
> I send a picture of myself and my little boy, and bees. I am holding a frame of a second swarm 10 days after hiving. EUGENE U. PORTER.

* * *

Mr. C. M. Scott, of Indianapolis, Ind., on special request, talked before the convention of the Indiana Horticultural Association recently, on "The Advantages and Care of Bees." We learn that Mr. Scott stirred up considerable enthusiasm among both the fruit-growers and those who keep bees that were present. He didn't fail, either, to get in a "good lick" against the prevalent misbelief that there is such a thing as manufactured comb honey in existence. It certainly is good practice for all bee-keepers to do that whenever opportunity offers, for if enough of them do it, and do it often enough, it is bound to help the sale of honey.

Contributed Special Articles

"Warning Beforehand"—Valuable Comment

BY G. M. DOOLITTLE

On page 840 (1905) is a very interesting article from C. W. Dayton. In this article Mr. Dayton tells us how he lost about 50 colonies of bees through "lack of attention," thinking that he could not spare the time even to "raise the covers" to these hives in looking after their welfare. And the strange part of the whole thing is, that he seems almost to blame Hasty, Doolittle and Miller for this loss. Listen to what he says:

> "Now, attention is usually the cheapest article in the whole apiary management. I have a very large stock of attention, but there was not enough of it where it ought to have been. I think Hasty, Doolittle or Miller ought to have warned me beforehand. As it is, I cannot use their advise until it happens again."

But did they not warn him beforehand? Doolittle certainly did, and I am almost sure that Dr. Miller did. As to the Hasty part, I am not so sure, but I have a faint recollection that he did something on the "warning" plan long ago. Mr. Dayton, is it not possible that you paid so little "attention" (because that "is usually the cheapest article in the whole apiary management") to the warning when it was given, that you forgot all about the matter just at the time when it would have been of great service to you—a service sufficient to have saved the life of 50 colonies of bees? To think what that forgetting or lack of attention cost you! Why, it almost staggers a little bee-keeper like me.

Fifty colonies lost in the spring through inattention, means a loss of about $5 a colony as to worth of bees, for these colonies would have doubled; when, calling them worth only $2.50 each in the fall, we would have had 100 colonies to multiply the $2.50 by, or $250 for the bees alone. Then had they produced 100 pounds of comb honey to each colony in the spring, as did each colony of mine at the out-apiary, and that 5000 pounds sold at the average price of 10 cents per pound, as did mine, this would have given $500 in honey, or a total loss of $750 for the year 1905, and that just from a lack of a little attention, the "cheapest article in the whole apiary management."

Oh, Mr. Dayton! Certainly Dr. Miller and myself told you more than once that the best way of feeding bees that were lacking in stores was to exchange a few full combs from the rich colonies into the weak or starving ones. And to think that you paid so little "attention" that you let 50 whole colonies starve! Oh! Oh!!

Then I have more against you—*you*, whom the bee-keeping fraternity look up to as an authority; one of the contributors to our bee-knowledge; one of our successful apiarists. You say in that article, "I was very busy at other kinds of work," so much so that "I thought I could spare no time so much as to raise the covers, and did not go amongst the hives more than once in 10 days." And this you did when Doolittle had told you over and over again, "that you should leave no stone unturned that would give you a single pound more of honey." Ah, you know the good Dr. Miller and myself have often "warned you beforehand" in these matters. Why did you not heed it, and let those "other kinds of work" give place to the bees, looking after the bees *first*, and then doing other work, if you could find the time afterward? Have we not told you that this was the only way you could become a *successful* bee-keeper? And now to have you say that we "ought to have warned you beforehand." It almost breaks our hearts.

But I think I hear you saying, "I did not know where to find these beforehand warnings that you and Dr. Miller have given." Yes, but did I not warn you beforehand on this very point, and tell you when writing of my reference book, how you might be able to find these and other matters at just the time you were most in need of them? And now I come to the main thing which I wished to speak about, the "before" part being only as a preliminary to show the value of what is to come after, Mr. Dayton's "ought to have warned me beforehand" being what called up the matter.

How are we to find these beforehand warnings, and all subjects treated out of season just when we want them "in season?" If I am a judge, fully three-fourths of the matter in our bee-papers comes to us at a time when we cannot put it in practice. Not that the bee-papers are to blame for this, for it is but natural that any writer tells about, and is the most interested in, any scheme or work just after he has passed through it; and after he has passed through it and has had time to get the thing published, it is too late for the same to be of use to others till nearly a year has passed away, and by this time nearly all will have forgotten the matter, unless we have some means of calling it to our minds just when it will be applicable again. Or, as Mr. Dayton so aptly puts it, "I can not use their advice until it happens again."

My way of calling to mind these things just when I wish to use them is to mark the item I think will help me, by drawing a pencil mark around that part which I think will help me, and immediately picking up a little book I always have at hand when reading the bee-papers (my reference book), having 24 leaves in it, the leaves being dated Jan. 1, Jan. 15, Feb. 1, and so on to the end of the year, when I jot down, under the appropriate date, the matter I have just read about.

For instance, it is this item in Mr. Dayton's article about out-door feeding which has called out these thoughts; the matter is applicable to next or any May, in this locality, but is printed under date of Dec. 7, 1905. I turn the leaves to the leaf dated May 1, and there write, "About spring feeding, A.B.J.-p. 840,-05."

Now, when May arrives, I take down the book and look over all that is jotted down under the date of May 1, and I know at a glance just what I wish to look up as applicable or peculiar to the season we are having then; or, perchance, something which I wish to experiment on at that time, like this plan of out-door feeding would be.

When May 15 arrives I take down the book again and find out what is right for the last half of May, and so on to the end of the year, or May 1 of the next year. Things which I have jotted down to experiment with are underscored, if they have proven valuable; or crossed off if of no value. In this way I get the cream of all the bee-papers as the years go by, having all the *cream* of volumes upon volumes in this little book, and that called to my "attention" just when I want it for use.

And while this attention may be the "cheapest article in the whole apiary management," in one sense of the word, yet in another sense it is the most *valuable* possession I have along the "bee-line."

If Mr. Dayton had been thus "beforehanded" last spring, it might have been $750 value to him. See?

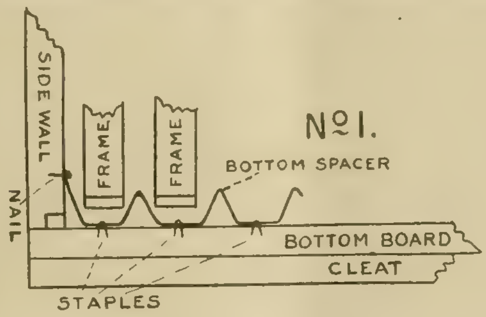
Borodino, N. Y.

Something More About Frame-Spacers

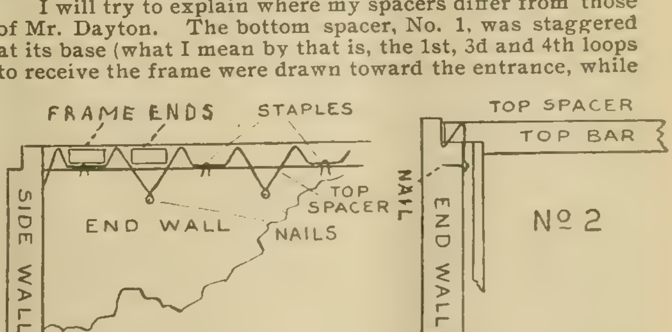
BY K. H. WAGNER

I WOULD like to say a few words about spacers, since C. W. Dayton gave us some sketches of his spacers in last year's volume of the American Bee Journal.

From Oct. 2, 1894 to June 13, 1895, I made a number of hives (some for myself, but sold more than I used), and in 6 of my own and all that I sold I put a spacer of my own invention, but before 2 years had passed I discarded all in my yard, believing that they (being of metal) were very objectionable to the bees. By repeated watching it appeared to me that the bees would run up to the cold metal, rush back or to the side of it, trying to get past it where they would not have to cross it with their feet, but after I coated some heavy with wax they did not appear to notice them very much, and where some were coated near the edge or side of the hive, and others in the center, they showed their preference by traveling over the wire where it was coated, most particularly in the early morning. This was on the bottom spacer, while on the top spacer I never could detect any difference in the action of the bees. One reason for that was, the bees were more or less disturbed by watching them, as my hives had wooden walls and top so they had to be opened to see them. Another, and I believe the main reason, was that the wire was warmer in the top of the hive.



I will try to explain where my spacers differ from those of Mr. Dayton. The bottom spacer, No. 1, was staggered at its base (what I mean by that is, the 1st, 3d and 4th loops to receive the frame were drawn toward the entrance, while the 2d, 4th, and 6th, etc., were drawn towards the rear of the hive, and a small staple was driven into the bottom-board at each bearing.)



Another difference was this: The loops were nearly V-shaped, so that they were the width of the bottom-bar at the right height, while the frame would enter easily, yet come to its place by the elastic and springy wire. These spacers were stapled on the bottom before the hive was nailed up. My top spacers were also wire, and made as No. 2, and all the preparation I ever made in the rebate at the end was a light saw-kerf, and in all hives a heavy scratch with a pair of dividers, to receive alternate loops of the spacer. The reason for running alternate loops down on the end-wall of the hive was to get more spring to the wire. It is true that the wire could be bent exact enough to suit a set of frames made at one time, or at one place, but I find some difference in two men's ⅞ of an inch, and if a little cold propolis happens to be on the projection of an old frame that you wish to enter, it may only throw that frame out of center a little, but it will enter without delay. Parkersburg, W. Va.

Hives, Frames, and Excluders

BY W. G. ASKEW

The regular 10-frame hive is 14¼ inches wide, inside measure, by 20 inches long. Now when you put in 10 frames 1⅛ inches wide this takes 11¼ inches of space at once, leaving only 3 inches of space without an excluder. Now put on the excluder and how much space is left for the bees to go up into the super? The frame, being 1⅛ inches, is too wide, the hive too narrow, and yet the hive is too wide for an excluder, which is only 14 inches wide. One-fourth of an inch difference in the hive and excluder gives the queens a chance to go up, which they will often do. Then the excluder does harm.

Now for extracted honey one must use the excluder, but it should fit the hive within ⅛ and not ¼ inch; as it is now made I have to bush mine on two sides. I have about 500 of the 14¼-inch hives, all of which I expect to use as supers, and make hives 14⅛ inches for brood-chambers, which are all right for 1⅜-inch spacing, whether the frames be 1 inch, 1⅛, or ⅞ inch wide. With ⅞ inch frame, ½ inch full can be left between frames; with 1 inch, a ⅓-inch space; and with 1⅛ inch frame, ¼ inch can be left between frames. Now which of these three widths of frames is best to use as brood-frames when the excluder is used? And no up-to-date bee-keeper can think of doing away with excluders, but one does not wish to exclude the worker-bees from the super, but queens, so as to rear as few drones as possible, and in the right place, and to take off the honey rapidly when the time comes, avoiding patches of brood in extracting frames and misplacing of queens.

When no excluders are used no doubt enough extra drones are reared in one season to consume enough honey to pay for excluders, but the excluder as now made does not fit the hive as it should. The hive should be ⅛ inch narrower, or preferably the excluder ⅛ inch wider.

How about a hive 15 inches wide, frames 1 inch wide, brood-frames spaced 1½ inches, and the excluder exactly 14⅞ inches wide? A spacing of 1⅜ inches is not quite wide enough for bees to cluster in sufficient numbers in winter for the best results, nor to allow for sufficient storage room. Nothing is lost in allowing them more than enough stores for winter. Riviere, La.

Another Defense of the Sparrow

BY WM. STOLLEY, SR.

I often read stuff in bee-papers that seems to require refutation, but what is the use? Like Prof. Wiley's pleasantry about the manufacture of comb honey, it always is sure to bob up again. So, on page 806 is found an attack on the much unjustly abused sparrow, and this bird is charged not only with doing *all* the damage done to grapes, but also with a number of other crimes, such as destroying peachbloom, peas, lettuce, etc. Several times I have written in defense of the sparrows, years ago, and I do not think it will avail much to do it again, for, like the Wiley lie, it will bob up again.

But then, truth cannot be repeated too often.

Now, it is not my desire to deny that the sparrow is guilty of doing "his share" in damaging ripening fruit, and appropriating some grain to his own use, but close observation will prove that the sparrow is by no means the worst of the depredators. I am also a grape and fruit grower in a small way, and a great lover of all birds, and I have been so for a great many years, but my verdict of the sparrow differs, as compared with other birds, which cut a great figure in injuring and destroying fruit, and which, respecting the destruction of injurious insect life, do not begin to compare favorably with the beneficial work of the sparrow.

My long years of observation proved to me that away ahead of the sparrows, all the thrushes, but in particular the brown thrush and the catbird, are the greatest destroyers of all kinds of fruit. The blue-jay and the oriole come next. But the thrushes are more destructive than all the other birds, because they nearly always give the grapes, and other fruit also, but one or two whacks with their beaks, and if the taste does not suit their palate they go on, without eating the fruit they have injured, until they find a sweet, nice morsel, thus destroying large quantities in a short time.

Moreover, all thrushes are sneak-thieves, and always keep well under cover when they are out on their raids in the vineyard or fruit-orchard, long before the sun rises, and they keep at it most of the day. Now, the sparrow is no sneak-thief. He goes after his meal open and above board. With his stubbed and short little wings he flies in flocks in the open, so that everybody can see where he is going, and what he is after; and he always makes noise enough so as to be located without much hunting for him.

Another peculiarity of the sparrow is that he eats clean what he injures, and he rather partakes of already injured fruit in preference to fruit not touched yet. The sparrow is not guilty of picking fruit here and there, and everywhere, like thrushes and catbirds, thus wantonly destroying large quantities of fruit.

The sparrow is more fond of cherries than of grapes, and will have "his share" of fruit at the proper season. I suppose because he thinks himself fully entitled to it, and I think that he is.

Of all the birds we have, the sparrow destroys more insects, worms and caterpillars than do any other kind of birds.

During breeding time, which begins with the sparrow quite early in the spring (when almost all other birds are still in warmer climes) and holds out till late into summer, the sparrow feeds nearly exclusively on insects and worms—the young birds live exclusively on that diet—and since no other bird is as prolific a breeder as is the sparrow (3 to 5 broods, each of 4 to 6 young birds), it is self-evident that the destruction of insect life by a single pair of sparrows must be simply immense during a breeding season.

The sparrow is much better than is its reputation. Of all our birds he shows the most religious inclination, for he does his level best to live up to the command of his Maker, in being fruitful and replenishing the world all over with his kind. No other species of birds in this country can cope with the sparrow in this respect; and I think President Roosevelt will find no fault with the sparrow. After his ardent work (on this line) is done, and after he has destroyed so much of injurious insect life, why, of course he needs recuperation to fit himself for the next summer's campaign! A change of diet is very naturally the next thing in order with him. And so he goes, open and above board (but not as a miserable sneak-thief) to the fruit-patch, and partakes of what he has helped to protect against the insect pest.

Why, who can justly blame the sparrow for taking simply his own? He earned it, and earned it honestly.

Now, the foregoing is not nearly all that can be said in favor of the sparrow, but I will say one or two things more, and be done:

When the actual and mainly responsible miscreants—the thrushes and other birds named—have had their fill, and settled their misdeeds on the comparatively innocent sparrow, they make up their minds (with the approach of cool weather) to go South. These weaklings cannot stand the rigor of our Northern winter. After they have stolen our fruit, they turn their back upon us, and soon our woodlands are deserted. The sparrow, on the contrary, is of a different make-up. He does not desert country and home. He faces the winter storm like a brave little man, is always cheerful, and is the only bird of our own which enlivens our winter landscape with his merry twitter, caroling in shrubs and trees, and around the house and barn, as well as in the streets of the city.

In winter, when food is scarce and hard for him to get, he knows how to economize, and the fresh droppings of a horse go a great way with a whole lot of them.

Now, why is it that the sparrow is abused and defamed so unjustly, even by some professors of our State universities, whose reports *sometimes* are not worth the paper they are written on, when it comes to judging the poor little sparrow? Is it that the sparrow is a foreigner? This seems to account for much of the abuse the sparrow is getting. But are all those who attack him not foreigners themselves? We all are of foreign extraction, and discrimination on this account is simply silly.

Our native birds, on account of their brilliant, showy and beautiful plumage, are adorning frequently the head-wear of silly women, whose vanity prompts them to disgrace themselves by covering their empty heads with the feathers of the charming songsters of our woodlands. Shame on them! The sparrow is exempt from this vandalism, because he wears an unassuming, humble wardrobe.

Let us all try to be just and inform ourselves before we make charges which cannot be substantiated.

Grand Island, Neb., Nov. 30, 1905.

Convention Proceedings

Report of the Ontario Convention

The annual convention of the Ontario Bee-Keepers' Association was held partly in Albert Hall and partly at the Albion Hotel, Toronto, Nov. 15, 16 and 17, 1905. Pres. H. G. Sibbald occupied the chair at all sessions. The minutes of last convention were read by Sec. Couse, and approved. Mr. Sibbald then delivered

THE PRESIDENT'S ANNUAL ADDRESS

I am pleased to have the honor of welcoming you to the 26th birthday of the Ontario Bee-Keepers' Association. Being at present a citizen of Toronto, I also bid you welcome to the city. Enjoy yourselves in convention as much as possible, but be careful in the city to keep out of the way of street-cars, and don't blow out the gas!

I read in a country paper the other day that people are always careful to give country visitors the above instructions; but that a Hamilton man, while out at a Country Fair, was actually run over by a load of hay!

We meet in convention annually to talk about all pertaining to the little Bees, and the Honey they gather, and I venture to say that no one outside of our fraternity can understand the pleasure it is to exchange ideas, and, copying from our pets, give "pointers" to others. While we may be somewhat dogmatic, and think our own system—the hive we use, the bees we have, and the honey they gather—better than those possessed by others, still we learn much from these meetings, and, as a rule, you will find the members of our Association expert bee-keepers and better informed on all pertaining to apiculture than those who have not availed themselves of the opportunity of joining with us and attending our meetings.

H. G. SIBBALD.

Since our last convention a very fair honey crop has been realized, especially in the western half of our Province. Prices have been fair, and the demand good, so we meet under most favorable circumstances, and, like bees in a good honey-flow, are good-natured.

Our honey show, which was inaugurated last year, has now become an annual event, and the exhibition in the hall at present will do credit to our production, and should do much to bring honey more prominently before the people of this city and the Province, besides stimulating a worthy rivalry between bee-keepers to produce something better than has been produced.

The holding of this convention in Toronto will tend to centralize our meetings, and it might be wise for us to consider means whereby a number of first-class, successful bee-keepers might be sent, or be available to attend the local affiliated societies, thereby keeping these societies in closer touch with the parent society, and at the same time adding interest to their meetings.

Apiculture is advancing. Bee-keepers are adopting short-cut methods, which make it possible for a man to attend 200 or 300 colonies, where a few years ago 100 would have been sufficient, producing from them from 20,000 to 30,000 pounds of honey, where 10,000 would have been considered big work. And while we are considering ways and means of cutting corners, we must not forget that a larger output will require a bigger market, else prices will go down. Our Association has here a field for work—to advertise and educate the public to eat more honey. If people only understood how deliciously wholesome, how cheap and economical honey really is, they would use it far more largely as an every-day food. How many people realize that 5 pounds of honey can be obtained for the same money that 2 pounds of butter costs; that many children would prefer it to butter spread on bread. Thirty cents will buy a quart of honey, and it will go farther than 2 or 3 quarts of fruit. We should all endeavor to create a better home market for honey. It can be done.

Your program committee have done their best to provide a program including subjects of live interest and importance to bee-keepers at present, and it is the wish of your officers of 1905 that the most profitable convention that has been called will be the present one.

H. G. SIBBALD.

Prof. F. C. Harrison, formerly of Ontario Agricultural College, Guelph, but now of Macdonald College, Ste. Anne de Bellevue, Quebec, addressed the convention on

MEANS OF DIFFUSING APICULTURAL KNOWLEDGE.

Prof. Harrison frankly told the members he considered the Association was not doing all it might do in this line. First, we have publications, which are mainly the "Canadian Bee Journal" and the "Annual Report." He thought the Canadian Bee Journal might profitably increase its size and give more of what is going on abroad. Of course, extracts from American journals should be first. But there are many good things in the European journals which might profitably be translated and published. There should also be many good points for beginners, as there are always beginners who need advice.

Another point which Prof. Harrison emphasized was the holding of educational meetings. There should be "more than one annual meeting." The bee-keepers should work through the Agricultural Department to bring bee-keeping before the fruit-growers and the seed-growers. Both are benefited by bees, and should be led to see that benefit more fully. In the Fruit Growers' Association they have spring and summer orchard meetings. Bee-keepers should make it a point to send delegates to these meetings, who might strive to disabuse the farmers' minds of the idea that bees are an injury to fruit and other crops. This might be the line of the first year's instructions. The second year some other definite line of instruction could be taken up. During the winter, representatives might be sent with the Farmers' Institute workers. The third year speakers could be sent from the Provincial association to address the local societies. By strengthening the local associations you would strengthen the main one. In any case, send out the very best men possible, and the college at Guelph will render all assistance possible to these men along technical lines.

Pres. Sibbald commended Prof. Harrison's ideas, but thought we did not need to cultivate beginners so much as to educate the bee-kepers we have, and promote the improvement of the honey produced.

R. F. Holtermann would emphasize the desirability of promoting the knowledge of foreign ideas. He had gotten some of his best ideas from German literature.

In regard to the value of bees to seed, it would be wise to issue bulletins showing the value of bees, and also ask those who can to bring forward proofs to the contrary. In looking over the alsike clover report he had noticed a great variation in the yield this year, and in many cases where large yields were reported he knew bees to be kept in large numbers.

What we are suffering from is that bee-keeping is not treated as a business. We should show people that it *is* a business, then they will be more careful about rushing into it without first counting the cost.

J. D. Evans thought we should be very careful about urging an over-supply of honey, as there is very little foreign market for it.

W. A. Chrysler—Education should start with the young. Every avocation should be presented in the public and high schools so that the child could choose what he likes best and go on with it. Nine out of ten make a failure of bee-keeping.

Arthur Laing—We should do nothing to increase the production of honey. Many of us make our living out of bee-keeping, and it is small enough. What we need is to develop markets rather than bee-keepers.

Mr. Holtermann—Fruit-growers, etc., send their specialists over to work up the foreign market. Bee-keepers do not send representatives, therefore they do not get the market.

(Continued next week.)

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Who Shall Keep Bees?

It is not so very long since it was said that anybody can keep bees. That was true, but it is not now. Times and conditions have changed. The unfitted bee-keepers will have to yield and give way to the more fit, just as small manufacturing concerns, illy located and without the power, machinery, and the brains to run them, have to give way to the larger and stronger ones. The bee-keeper who gets out of the old ruts traveled by his grandfathers, and adjusts himself to present conditions, is wise. He must keep pace with the times, and to do this he must think, study, and read. He must adopt new methods and apply them. To such a bee-keeper success may be assured.

Wintering Bees in the South

It may be supposed by some perhaps that such a thing as *wintering* bees in the South does not exist. Yet we winter our bees. Cellars, of course, are entirely unnecessary, and when we read about the trouble of cellar-wintering we should appreciate our good fortune of not needing them.

Chaff-hives protect bees nicely where they are in an exposed location where the bleak, cold winds strike them full-blast. But these are expensive, and have no advantages as a summer hive; at least none were found while using several for experiment for 3 years. The brood-nest is kept at a more uniform temperature for early brood-rearing in spring, but the extra cost of the hives and the number of disadvantages far overbalance the few advantages, and hence do not warrant their use. Mr. Stachelhausen gave them a thorough trial, but discarded them as worse than useless.

Instead of using chaff-hives where bees are very much exposed, I would recommend the use of only temporary protection. Old boards, straw, corn-stalks, sorghum, and the like, or old quilts and sacks, placed against the hives to protect them on the north side. This, of course, is to be applied in small apiaries. On a larger scale I would use cheap roofing-paper, simply tacking it on with a few large tacks that can be removed easily so the paper may be used again. The paper should also extend around the hive sides, leaving only the front of the hive free; supposing, of course, that this has a southern exposure.

In locating an apiary I have always paid much attention to the matter of winter protection, so locating the yard that it is well protected on the north side by a hill or woodland, or both, and having an open southern exposure. A hedge, or even a high board fence, will answer very well. An apiary in a cozy nook of this kind is well protected.

In warmer localities of the South, of course, it is hardly considered necessary that any attention be paid to winter protection of this kind, yet there are years, sometimes, when cold spells late in spring mean much damage to young brood. But I remember one season when colonies were already preparing to swarm, a "cold snap" depleted them so by chilling the brood that they were in no condition for storing the crop of honey only a little later. Had the bees been protected in this case, it would have meant hundreds of dollars in the bee-keepers' pockets.

One of the main and most important factors in wintering bees, however, is that the colonies are supplied with sufficient stores. Unless they are thus supplied all the other protection will mean naught. As this serves as so much fuel, a colony with a good supply of honey will survive while others starve.

This preparation, therefore, should begin in the fall, when the brood-nest should be arranged to the best possible shape for the welfare of the colony. Not only should this preparation suffice for the wintering, but the coming spring should be provided for. This consists of the proper arrangement of the combs and stores—honey and pollen—to provide ample room, and of the right kind, for the use of the queen when the season opens. To this end, straight, all-worker combs, not clogged with pollen, should occupy the middle of the hive. If there is nothing to hinder the queen—which, of course, should be a good one—a rousing colony will soon be the result.

If the colonies are deficient in stores it will be well to keep a close watch over them, and if feeding is necessary then feed. Combs of sealed honey are my first preference, as they can be placed right in the brood-nest for the bees to cluster on. The next best, in my opinion, is the Doolittle division-board feeder for feeding syrup, sugar, honey, and water, as given in the text-books. Other methods can also be used, whichever is most practical.

With our warm weather during many days it is possible to examine the bees at almost any time during winter, but care should be taken not to disturb them unnecessarily. If, however, the proper attention was not given them last fall, they can still be attended to, by either feeding if short of stores, or arranging the brood-nest properly as soon as warm weather permits. It will be better still to do this instead of not paying any further attention to the matter at all and allowing the bees to suffer in consequence. For this reason, and for the purpose of answering a recent inquiry, this discussion is given at this time.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

A Texas Sister's Experience With Bees

I received a queen Oct. 9. She had lost one fore leg, but appeared to be in perfect condition, and her attendants were all right, so I at once made ready to introduce her at 10 a.m. I pressed the brood-frames apart and slipped the cage in and closed the hive. In 36 hours I gently examined, and she was not released, and at exactly 48 hours, when she was due to be released, there came a swarm with full determination to go in. Being on watch, I at once closed the hive with a wet rag, which I find very handy to close a hive, as the bees won't push against it. They clustered on the front of the hive, and I very quickly found where they belonged. The ants had driven them out of their home. I quickly gave them their own house and a new stand, and then looked to see if my new queen had been released, but not yet. The next morning I took the cage out, as she was released and appeared in be in perfect condition.

Just 10 days later I examined to see what she was doing. She had just begun to lay. I waited 10 days and looked again, and found larvæ, sealed brood, and eggs. I counted as many as 6 eggs in a single cell. So I just gave her a larger brood-nest, then closed the hive and went into the house; but just one hour later I thought I would step out and see what was going on, and, to my surprise, a ball of bees was lying just in front of the hive. I could not wait to get hat or veil, but just ran to them and picked them up with my bare hand and hastened to drop it and to pick it up again. I said to myself, "You will kill the queen!" Yet with my bare hand and a little stick I soon released the queen, took her in my hand, quickly ran in a room and turned her loose on the window, and, lo, she had all her legs and was a shade darker. At once I saw she was "a stray." Then I put her into a cage and went out to see if I had a missing queen, but no, mine were all right. I had one colony that was queenless, so I just introduced her there, and went to see if my new queen was all right, and found she was.

I waited 10 days longer, and gently lifted the hive-cover and raised the frames. There was but little brood and larvæ, and there were not many eggs, but as many as 6 to a cell, plenty of room, and plenty of bees and honey. What is the cause? She is in an 8-frame standard hive. Will she be all right by spring? She is a perfect beauty, and I shall report again when spring comes.

I must also give my report for 1905, and some experience. I had 47 colonies, spring count, and at present 79. All went into winter quarters in good condition, with the exception of 12 that I had to feed some.

I think they did very well, as they did not get to store any surplus till September, at which time I generally have my honey crop gathered. Some colonies stored as high as 100 pounds each, while others much less, and some did nothing. I did not keep any account of my honey this year, as I was surprised to get any. Some of my colonies filled 4 large supers, some only 1, and some only a half super, while some got nothing. I just make a lump guess at about 500 or 600 pounds. I generally keep up with the best colonies, and the very best gave me 100 pounds. I have one colony that gave 300 pounds last year, and gathered it between the last of July and the last of September, and it was certainly nice. I sold all my honey last year for 10 cents a pound, while the past season I sold it for 12½ cents a pound, and some at 15 cents.

I attended the Ellis County Fair, and exhibited my honey. I got all the honey premiums. I have a good demand here at home for honey. I haven't used sections yet. I work for comb honey, and pack it all myself. I made all my hives and frames myself until this year. My husband is a poor helpmate with handling supers or boxes; I can't see why, but it must look to him as if they were wrong side up. He will turn them over in spite of me, and of course you know what the result is—a lot of spilt honey.

I haven't any record of my apiary yet, though I shall get it soon, as I have several clipped queens, and they might get lost. Give me your best record idea.

Does a fertile queen ever leave the hive, and all the bees go with her, and then return again to her brood? I saw her, and know she was there. She and all her bees went out and circled all over my apiary, then returned to their hive. I went and looked in while they were out, and there was brood, larvæ, eggs, and honey in plenty, and the last week in June she quit laying and did not lay any more until the first week in September. I just thought it was a lost queen, and I began giving them some brood, so they might rear another queen. But they would not, and once a week I would give them another frame, and so on until I began to get tired. I took all the frames out looking for her many times, but could not see her, so they would not even try to rear a queen. Being tired I left them without brood about 12 days, and they worked so hard storing lots of honey that I decided I would try once more, and after they failed I thought I would just let them fill their hive with honey. I was vexed at them, and thought I would just quit putting in larvæ and eggs for about 10 days, and when I looked there was nothing but bees, and honey in plenty. I often looked for the queen, but could not tell her from any other bee. I know they did not rear any queen, as I kept a close watch, and after all the brood hatched I went there to put in another frame, and, lo, there were about 4 frames well supplied with nice eggs. I just closed it up, and today it is as nice a colony as I have, strong and heavy. What was the trouble? I thought perhaps they gathered honey too fast for her, or did they get a stray queen? I know they did not rear one, for I looked every week to see.

I bought some bees from a neighbor, and such a mess I never saw before. When I would raise some of the covers they would smell something like a dead cow, one that had been dead for about five days in real warm weather. Now this gave me great trouble, as I had no experience with any such thing, and it also gave me lots of experience. It would break out at any and all times of the year. Just as soon as I was sure it was foul brood I never would raise the cover from them so as to let any other bees enter the hive. I would close the entrance at once, and make ready for transferring them. The first thing, I got the hive ready with about 3 combs, 2 of honey and 1 of brood, all clean and healthy. Then I would take the foul-broody colony 30 feet away, still keeping the hive closed tight. I put ashes on the old stand about 3 inches deep, covering the ground all in front, under, and around. Then I put the new hive there, closed the entrance about half, and then I was ready to transfer. With the smoker full of fuel, I fired it, and just opened the entrance enough to insert the nozzle of the smoker, then I begin pumping smoke, and just as soon as they were well smoked I slipped the cover to one side enough to give them about 1 inch to come out. I caught her and carefully clipped her wing, put her in the new hive by raising the cover and letting her run in on the combs. closed the lid tight, then just kept smoking as long as any bees would come out, and they would nearly all go to the queen, and what few clustered on the outside of the hive I just raked on a board, and then dumped them right in front of the new hive. I hastened back to close the old hive, chink the entrance with a wet rag, and see that the cover is put down tight.

The first day when all the bees are compelled to stay in their hive, I attend to the burning of the contents of the old hive. I cut close and burn all combs. I do not even drop the smallest particle of comb honey or anything therein, and boil the hive, frames, and bottom and top. I boil them about 20 minutes.

Now that is my way, and I think it is good, as experience is a good teacher.

Now the transfer is quite easy, but the cleaning up is a job. I certainly do hope that the bee-law in Texas will have the inspectors inspect every apiary, even if they have only a small number of colonies. I have suffered for the want of protection. I have learned a great deal about foul brood, but it took me 3 years to get rid of the dreadful disease. My apiary is all healthy and nice now.

Hurrah for the American Bee Journal! It and I are the same age. MRS. CARRIE BRANCH.

Garrett, Tex., Dec. 10, 1905.

Next time you have a queen balled, don't try to pull the ball apart with a stick. It may make the bees sting the queen to death. Throw the ball into a dish of cold water, and the bees will loosen their hold to save themselves as best they can, and you can then rescue the queen from an unwilling bath. Another way is to blow smoke upon the ball. If you hold the nozzle of the smoker close to the bees, and blow hot smoke upon them, they will be sure to sting the queen. Hold the smoker so far off that blowing at the ball has no effect; then gradually move the nozzle nearer and nearer until the outside bees begin to leave the ball; then without moving the smoker nearer keep on blowing till all the bees have left the queen.

The probability is that the laying of more than one egg in a cell is due to some temporary derangement as a result of travel and introduction, and that the queen will be laying all right in the spring.

Thanks for your report. You are to be congratulated on doing so well when the bees did not store till so late.

Replying to your question as to the best idea of keeping records, we like a blank book of the inexpensive sort, putting down the numbers in order, and allowing about 3 colonies on each page.

Yes, a queen may leave the hive with her bees and return, but it is not a frequent occurrence.

It is hard to say just how it was that there was a time during the honey-flow when no eggs were laid, but it is entirely possible that the bees were queenless and that a stray queen entered later.

Maple Sugar and the Sugar Bush, by Prof. A. J. Cook; 44 pages; price, postpaid, 30 cents. This is by the same author as "The Bee-Keepers' Guide," and is most valuable to all who are interested in the product of our sugar-maples. No one who makes maple sugar or syrup should be without it. Order from the office of the American Bee Journal.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

WIRING FRAMES—FOLDING SECTIONS.

I do not wish to suggest any doubt that Adrian Getaz wires a frame in less than a minute; but it looks as if it would be very easy for some other person to spend 5 minutes doing it. About 16 little operations to be performed, if I figure right; and they would have to average less than 4 seconds each to "make the riffles."

Pleasantly surprised to see a method of dampening sections so much like mine. I dampen 6 by 6, in a suitable tray, about 100 in a batch, and keep them snugly piled until they are folded, to prevent drying. But my dander rises a little to hear him say that the Parker machine is not very satisfactory. Might not be if you never learned how to wriggle it, and tried to use it in too awfully cold weather; or if you tried to stick wax to a damp surface. All the same, Mr. Getaz has given us a grand article on pages 841–844.

INDIVIDUAL BEES LEAVING HIVES IN WINTER.

Bees will come out and die sometimes when the temperature is quite low. Nothing remarkable about that. But if they do so in December we say, I fear the late honey was pretty poor, and bees are going to die off badly. On the other hand, if they refrain from dying on the snow clear through January and beyond, we cheer up and hope to get through with few losses, and not very many colonies reduced to weaklings. But what does it signify when, at quite low temperatures, they come out, now one and then one, and go looking around to see what they can find—evidently with no intention of dying? I see the like this December in my yard, and Miss Wilson's remarks on page 844 show that the same thing appears at Marengo. 'Spects we'll have to say, "I don't know," and wait and see what it signifies.

MIXING LARGE INCREASE.

I think Mr. Atchley, of the Texans, was all right in holding out a little for the excellence of his way of making large increase—wagon loads of 2-frame nuclei taken immediately out of reach of all other bees. The bothersome thing about it is that spots where open-air feeding can be kept up week after week, and no outside bees strike in, are pretty scarce over most of our territory. He that has such a spot in reach, let him use it and rejoice. Page 846.

MAKING TWO KINDS OF HONEY.

Sad that alfalfa honey should so constantly impress the laity as being just sugar and water! Undoubtedly right to satisfy the taste of customers by mixing two kinds of honey (as alfalfa and heartsease), but it is imaginable that in some cases suspicions might arise from it. And if one sets the example of shrewd mixing will not somebody else follow, and not stop just where he should? Near by stands a close imitation to Satan, with a nice recipe that says, "Improve your dark and strong fall honeys by putting in just a little crystal glucose." It's nice to slide down the slope; but it isn't nice to slide over the precipice. Sometimes fear of the latter prevents our enjoying the former. Page 847.

COWS AND OTHER FARM STOCK IN THE APIARY.

It would seem from what Mr. France tells us that the canny cow, that so easily learned the true inwardness of barbed wire years agone, quite as easily learns the signification of barbed bees. Not so very wonderful. The wonderful part is that she learns to come softly and graze around the hives after nightfall. It appears that an apiary gets along nicely unprotected in an open pasture when once all the stock get to understand matters. But I should fear that there would be an unendurable lot of knocking over and damage done before the educational process was complete. Page 847.

FOOD OF LARVAL BEES.

That a scant percentage of nitrogen in their food when larvæ, should *alone*, or even in the main, cause bees to die off at wholesale, I am scarcely able to believe. Might help along in that direction if joined with some other powerful cause. And the logic of Mr. Beuhne, on page 857, I am not sure that that will stand fire. Imagine a kind of young creatures that could eat hickory-nut meats only. Ten percent additional shell to the nuts would not be likely to affect them much. They are not fed the shells, but the meats. So here. The other 73 percent of pollen (taking the best) is largely shells—shells that can be seen with the microscope in the excrement of nurse-bees. Increased shell likely to decrease the number of larvæ a hundred nurses could feed. Would hardly bring down the quality of the food much, one would say. Still it is possible that it might. Poorer food makes poorer milk; but corn-fodder with 10 percent too heavy main stalks would not, if the quality of the eatable part was the same. The chemical fact is worth keeping, anyway. In best pollen 27 percent protein; in poorest pollen only 17.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

The National Convention at Chicago

Another National convention has come and gone, and so the years glide by. I have watched these conventions in the press, year by year, but this is the first one it has been my good fortune to attend. The Grand Army of the Republic has always been so inconsiderate as to meet in my busy season, and the convention not being able to exist without low railway rates, has done likewise. This year the Texans were so kind as to raise a "Yellow Peril" cry so opportunely as to postpone and transpose the convention to the time of the International Live Stock Exposition in Chicago in December, after we Northeners have our bees housed for winter. So the ill wind blew some of us good.

Considering the change of place, and two changes of date, the attendance was good, and the Southern brethren who were afraid to come to our Northern winter, did not appreciate the fact that Chicago stood ready to supply amongst its many other striking features, a special brand of mild December weather, served up for their benefit. It was to me one of the disappointing features of the program, to see Mr. Hutchinson's genial face on the platform so often in his official capacity as secretary, to read the papers of absent members from Texas, Colorado, and even Michigan. I would even suggest that, in view of a crowded program, papers not read by their authors be simply retained by the secretary for the printed report. To meet personally, to grasp the hand of, and exchange pleasantries and ideas with, the men and women who are struggling with the same problems which are vexing our souls—for this we travel hundreds of miles to conventions.

Being one of them, the writer will be permitted to say the Canadian contingent was more marked by quality than quantity. There were R. F. Holtermann, F. J. Miller, Jno. Fixter, Wm. McEvoy, and the editor of this department. I could name a score of others who had no plausible excuse for not being there.

Honey-Bees and Alsike—Bumble-Bees and Clover

It was my good pleasure to meet on the street the other day my good friend, Frank Kelly, who, as a seed-grower, is a particular friend of bees. It was he who, a few years ago, insisted on my bringing bees 14 miles to his farm to fertilize his alsike. Frank is an original fellow who does not do things by halves. He pretty nearly knows a good horse when he sees it, and with the aid of his imported collie, "Boy," carries off most of the local prizes with his sheep.

With reference to bees and clover, he has very decided views. The year I had bees there his yield of seed was excellent; the next year he had none for seed. Last season he had about 15 colonies of his own bees and a fair yield of seed, but considered there were not enough bees to do the blossoms justice.

To fertilize his red clover, Mr. Kelly has a standing offer to the boys of the neighborhood, of 25 cents each, for all the bumble-bees' nests they will bring him. These he places in the fences around his red clover fields. Last season a neighbor who considered his chances for a crop of red clover seed fully equal to Mr. Kelly's, and laughed at the bumble-bee idea, had an average yield of only about half what Mr. Kelly obtained.

As a rising bee-keeper, Mr. Kelly votes 8-frame hives "no good." He wants something larger. He believes in doing things. By the way, he has "something up his sleeve," which, if it works out as it promises, will be a boon to both farmers and bee-keepers. In two or three years he will have something definite to report.

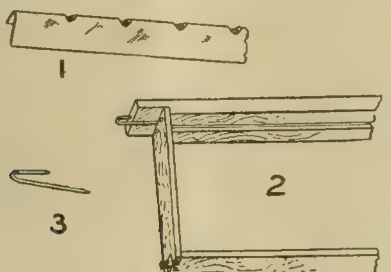
◆

Spacing Frames and Frame-Spacing Devices

After my experience with both loose-hanging and self-spacing frames it is hard to understand how any one can prefer the former, and only the old Indian's saying reconciles me. He said if all men thought alike they would all want his squaw. Many kinds of spacers I would not like. The kind I have is very satisfactory, but can be improved. A staple near each end of the top-bar on opposite sides, projecting just the right distance, exactly spaces the frames. The great objection is the metal staple to catch an uncapping-knife, and the difficulty of lifting a comb where the others can not be crowded away from it.

Mr. Alpaugh—one of our Canadian inventors—has apparently overcome these difficulties with a spacer, which has nearly all the advantages of loose-hanging frames without their disadvantages. I quote from the Canadian Bee Journal:

"The following engravings illustrate an arrangement for spacing frames in hives and supers that practically does away with the necessity of side staple, etc., the invention of Mr. Jacob Alpaugh. The tin frame-rest is notched as in No. 1, a bent wire (No. 3) is driven into the top-bar as in No. 2, extending out far enough to give an end-space. The wire underneath the extension of the frame drops into the notch in the frame-rest. The notch is shallow, and does not bind nor hold the wire, so the frame can be easily released by a little side-pressure and pushed over to the next notch.



"This is but one of the many valuable inventions that Mr. Alpaugh has given to the bee-keeping fraternity. We are indebted to him for the Alpaugh swarmer; the Alpaugh solar wax-extractor, with double glass; a 4-piece section-press; a brood-foundation fastener; and a 4-piece section-fastener that has not been excelled for rapid and perfect attachment, and all free of patents or encumbrances of any kind."

Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when writing us on other matters.

◆

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Candy for Winter-Feeding

As some have been discussing the feeding of bees on candy through the winter, I thought it would do no harm to send a sample to get your idea as to its fitness for bees to winter on that are very short of stores. I make it in cakes and lay it over the frames, but in order to do this I have to raise the cover about an inch, and block it up so the bees may get around it. Would this be too much ventilation for the bees? IOWA.

ANSWER.—The candy will probably work all right, only you must make sure the bees reach it. Raising the cover an inch will do no harm in the cellar, but it won't do at all outdoors unless you pack well in some way so as to keep all warm.

◆

Adjustable Bottom-Board

I enclose you rather a crude drawing describing the bottom-board which I use. I would like you to "pick it to pieces." I notice you use a deep rim to afford a large entrance, but you have to slide a thin board under the frames to prevent comb being built there. This bottom-board has no rim, and the entrance is regulated by shoving the hive back and forth on the board. The shoulder on the board prevents rain from beating in under the hive, and the frames are always just a bee-space from the board. ONTARIO.

ANSWER.—If you've been using it for some time, you're in better position to "pick it to pieces" than I am. One thing, however, makes me suspect that it has not been in use very long. If I understand you correctly, there is just a bee-space, or about a quarter of an inch between floor and bottom-bars. If your bees are at all like mine, you will not use a space of that kind more than one or two seasons before the bees will have the bottom-bars glued to the floor. Would you not like a space of ¾ inch better? You would hardly find that the bees would build down in them. Shoving the hive forward to give more entrance and ventilation is old, and it is good, only if you shove it forward enough to get the fullest ventilation the element of instability becomes objectionable.

◆

A Method of Making Increase

1. Please give some plan that will work in increasing better than the one I have, which is this: Say I have 10 colonies. Take half of the frames from the old colony, say it is an 8-frame hive, and put them into a new hive and give an untested queen, and put it on the stand where the old colony stood, moving the old one to a new location, leaving most of the bees in the parent colony, as most of the field-bees will return to the old location, thus building up the new-formed colony. Treating the 10 colonies in like manner, making just double the number. Then add frames of comb or foundation in the place of the ones taken out.

2. Will colonies made thus, in a good season, store any surplus? IOWA.

ANSWERS.—1. The plan will work, only there is some danger of swarming a little later. It will be safer to take more frames away, either all or all but one.

2. Yes, there ought to be good work in the hive left on the old stand, and possibly some storing in the other, provided there is a late flow.

Reports and Experiences

Bees in Fine Condition

My bees are in fine condition, heavy with honey. They are also in good health so far as I can see. The last two days were fine for a cleansing flight. I have them warm, snug and dry, and feel that they are likely to go through the winter with little or no loss. I expect to practice simulating the bees for brood-rearing, beginning early in the spring, say about a month previous to swarming time. In fact, I form many plans in winter, and my imagination is much exercised regarding bees.

J. H. Collins.

Bardwell, Ky., Dec. 28, 1905.

House-Top Apiary and City Honey

Bees did well for a house-top apiary. Two colonies were taken out of the cellar April 1, 1905, with one queenless. I sent for an Italian queen, introduced her, and she commenced to lay April 10. The colony held its own remarkably well. I received 6 queens June 15, and divided up the 2 colonies and made 6 nuclei. All built up fine and went into the cellar Nov. 15 in good shape. The old colonies built up rapidly and gave me 140 pounds of section honey.

Drexel Boulevard honey is very fine; an expert would most likely call it sweet clover honey.

No, I would not think of doing without the American Bee Journal. Even if I did not keep bees I would still wish to know what bee-folk were doing.

Chicago, Ill., Jan. 2. B. F. Lindsey.

Season of 1905 in Tennessee

Last spring we had fine weather and lots of bloom, but no honey. In midsummer the cow-peas gave some surplus honey. Fall flowers did well, and bees were in fine condition for winter.

Big Spring, Tenn. Dr. J. G. Goodner.

Study Your Bees and Methods

I am only a small farmer bee-keeper but I take pleasure in handling my bees and having them submit to my will as far as possible. But in order to do this, we must not try to force them to do something that is entirely different from their habits, or at a time when they are not willing, but give them their own sweet will to some extent. To do this, first read the experience of the older bee-keepers and then study your own bees carefully, and if you can't handle them as you would like to, change the stock; send for some queens that you think will meet your desire, but carefully study your own bees all the while and you will see many mistakes on your part when a beginner. I have kept bees only three years, and now have only 9 colonies, packed in forest leaves, wintering out-of-doors. My bees had foul brood last spring and I treated it myself. I think it will be a success.

I have one bee-book and take one bee-paper; these every farmer who keeps bees should have.

J. F. Group.

Franklin Grove, Ill., Jan. 4.

The Enjoyment of Nature Study

Friend York:—I want you to help me extend my arm long enough to reach way across the country, to say to Prof. Bigelow, of Stamford, Conn., "Shake" for his report of 1905 honey crop. His experience is quite like mine, though I think his harvest of stings a much larger crop than I can boast of. His number of colonies are about the average of mine from year to year, though mine are in excess of that number now. The pleasure derived from the study of bees pays me tenfold for all the labor and trouble attendant on caring for them. I can not get along now without a colony in my room to experiment with. I have promised to install such a colony in the home of one of our popular matrons here at the Lake next spring. She is anxious to study the habits of this curious, most interesting, and busy little creature.

Of course, it is all right to look after the material interests—the dollar factor—connected with the business of bee-keeping, as in any other pursuit; but, there is something connected with every pursuit of labor, especially where one comes in close contact with Nature, far more valuable in making up the sum of happiness than the mere act of money-getting. Therefore, the farmer, it seems to me, if he properly uses his opportunities, should be the happiest person to be found, because he is in touch with Nature constantly.

Lake Geneva, Wis. Wm. M. Whitney.

An Old Bee-Keeper's Report

My bees did fairly well the past season. I started in the spring with 57 colonies, sold 7, and one robbed, leaving me 49. I got over 3000 pounds of honey and have now in the cellar 68 colonies. Last year (1904) I had a better yield. We never get large yields here, but we get the best of honey. We are not troubled with moths or wax-worms; no fumigation needed. The largest surplus I have ever had from one colony, spring count, was in 1904. I brushed a swarm from a strong colony June 18, set the old one away and put the new one in its place. From the new swarm I took 5 supers of 28 7-to-the-foot sections each, and 3 supers from the old colony, all well finished and capped. I did most of the work myself, and it was a little too much for me. I don't expect to do much more bee-work, as I am now 86.

H. P. Willson.

Bathgate, N. D.

Last Season's Results

The fall of 1904 I put 60 colonies into the cellar, and last spring took out 46. I lost 2 more later on, so I started the season with 44 colonies. I took from them 2450 pounds of comb honey, all white clover. I kept 200 pounds for my own use, gave away 50 pounds, and sold 1739¼ pounds—through the St. Croix Valley Honey-Producers' Association—for $189.88; the remainder I sold locally at 10 and 12 cents per pound. All together the bees gave me about $265 worth of honey, and increased to 70 colonies. I put 69 colonies into the cellar Oct. 30, heavy and healthy, with the temperature between 40 and 50 degrees.

I have bought my supplies for next season through the St. Croix Valley Association, which amounted to $134.96. This Association has been a benefit to a great number of bee-keepers through this section of the country.

V. A. Hanson.

Amery, Wis., Dec. 21, 1905.

Cause of Spring Dwindling

I am not advancing a theory, but suggesting a thought brought about by my own experience, that spring dwindling in many cases is the fault of a queen (generally old) that fails to lay early enough in the spring to bring on young bees to replace the regular winter loss. Let professional bee-men discuss this.

Sioux Falls, Iowa. E. F. Sturges.

The Best Bee-Hive

After reading Mr. Doolittle's article on page 881 (1905), I feel like making a few remarks, as he does not seem to have covered all the ground.

Now, if Mr. Doolittle is speaking of a hive in which bees will winter better than hives having the ordinary Hoffman frame, I agree with him; but if he is holding up such a hive to us as the best for manipulation, I certainly disagree with him most emphatically.

In the first place, I wish to explain that I live in probably as difficult a place to handle bees as there is in the whole United States; not because of any scarcity of honey during the spring months, but on account of the excessive rainfall and cool nights. In fact, the nights are so cool, and we are always liable during the spring months to have several days in succession so cool that I have never been able to make a success of the nucleus plan of increase. Each nucleus should be at least ⅓ of a full colony, and as near a cube as possible; and when in that shape and size it is generally spoken of as a colony instead of a nucleus.

To come back to the point: Under the above circumstances, wouldn't it be perfectly natural for one so situated to make a close study of the hive question, and also the race of bees suitable for such a climate? Well, that is just what I have done, and my conclusions are:

First, I want a good bee-space above the frames, and a single wide board for a cover; no quilts, cloths, or oil-cloth above the frames to catch or hold moisture, mold, or moths.

Second, I want a divisible brood-chamber so the bees can shift from side to side of the hive in winter without having to go above or below the frames, and also for summer manipulation, as I want to handle hives and not frames.

Third, and most important of all, I want every section of my hive of the same dimensions, *i.e.*, brood-chambers and supers.

Now, for my purpose, all things considered, give me the Ideal super for everything.

Foster, Oreg. Geo. B. Whitcomb.

Not a Good Season in 1905

Last season as a whole was not a very good one. It was very good up to July 18, but from that date there was no surplus. I had a colony on scales that gathered 11 pounds the best day in basswood flow, which was late this year—the 15th of July, that hot Sunday. I got 24 cents a pound for honey this season; that is more than any one else got in this county. I am getting 11 cents from the stores for honey, and 12½ cents when I peddle it. I find that people will buy honey when it is brought to the door that will not call for it at the stores.

Wm. Cleary.

Algona, Iowa., Dec. 11, 1905.

Pleasant Winter So Far

We have had no zero weather so far. The last three months in the old year were delightful. In December the bees were out on the 5th, 6th, 7th, 11th, 24th, 25th, 26th and 27th. Since Jan. 1st we have had 3½ inches of snow, but it is mild and pleasant now again.

Wm. Stolley, Sr.

Grand Island, Nebr., Jan. 5.

Results of the Season of 1905

I have been a bee-keeper for the past 20 years, and have never had any trouble in wintering my bees outdoors in single-walled hives until the past two winters. I have always put a Hill's device over the bees and then a burlap sack filled with chaff in the top story, and hardly ever lost a colony until the last two winters. Winter before last I lost all but 7 colonies, and last winter all but 6, and they came through not very strong. They did very well, though, giving me 33 pounds of nice comb honey per colony, and 15 new swarms. I now have 18 colonies in fine shape.

The past season was one of the worst, being very wet and cold. The past fall I went to our store and got all the boxes I could, that had in them rolled oats and coffee, and after removing the top and bottom, I made a cover 6 inches deep that would just slip over the box, and put on the cover tarred-felt roofing painted with two coats. Then I removed the upper story of a hive, laid a small chaff cushion on the frames and then put on the cover. After this I put the outside case on and packed it all around with dry leaves, putting a lot on top; and last, put on the outside cover. I think that will keep them dry and warm. I will report further on.

This is my first year with the American Bee Journal, and I like it very much.

W. J. Young.

Scotch Ridge, Ohio, Dec. 19, 1905.

85c for 15 NAMES For names and P. O. of 15 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 50c a year. F. C. is a wkly., 25 yrs. old, 1,300 pages a yr. Sample free. Farmer's Call, Quincy, Ill.

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3A2t POSTVILLE, IOWA.

CONVENTION NOTICES.

Wisconsin.—The Wisconsin State Bee-Keepers' Association will meet in annual convention at the Capitol, Madison, Feb. 6 and 7. An interesting program is being prepared. Several bee-keepers of prominence are preparing papers on subjects of special and general interest, which will be discussed. The Question-Box will, however, be the main feature. One and one-third rate round-trip on all Wisconsin railroads. GUS DITTMER, *Sec.*
Augusta, Wis.

Colorado.—The Colorado State Bee-Keepers' annual convention will be held in the Chamber of Commerce Building, Denver, Jan. 30, 31, 1906. This will be during "Farmers' Week," when many farmers' organizations will be in the city holding conventions. We are assured of low railroad fares from all points of the State. We are planning for our usual good convention. R. C. AIKIN, *Sec.*
Loveland, Colo.

Michigan.—Michigan State Bee-Keepers' Association will hold its annual convention Feb. 1 and 2, 1906, in the parlors of the Blackman Hotel, at Jackson. The Michigan Dairymen will hold their annual convention at the same time in Jackson, which secures sufficient attendance to allow the railroads to give reduced rates—one and one-third fare, providing your fare going to Jackson amounts to 75 cents. When buying your ticket ask for certificate on account of Michigan State Dairymen's convention, and when the Secretary of that Association signs your certificate, you can secure your return ticket for one-third fare.

The following have promised to be present: E. R. Root, George W. York, W. Z. Hutchinson, R. F. Holtermann, A. G. Woodman, E. D. Townsend, W. J. Manley, C. A. Huff, Edward Wilson, Clyde English, A. H. Guernsey, Floyd Markham, W. D. Soper, Jay North, Albert E. Nurster, L. A. Aspinwall, O. H. Townsend, G. A. Bleach, Clyde Cady, John M. Rey, A. D. Wood, Geo. H. Kirkpatrick and others.

TOPICS THAT WILL BE DISCUSSED:—Kink in feeding back unfinished sections, Management of out-apiaries, The control of increase, Use of the queen-excluder in producing extracted honey, Is foreign honey affecting the prices of our honey? What section is best to use? What is the best way of ripening honey? What kind of bees are the best? Do we need more inspectors in Michigan? Shipping-cases for comb honey, Selling honey at retail, Grading and shipping comb honey, How to take different kinds of extracted honey separate and yet have well ripened honey, Best methods of making increase, Best temperature for a bee-cellar, Upward ventilation vs. none, Wintering bees in the cellar, Can bees have diarrhea when pollen is kept out of their reach? Producing both comb and extracted honey in the same super, Advertising the more general use of honey, Does it pay to buy queens at a fancy price to improve our stock? Why control of increase is desirable, and how shall it be done?

PRIZES THAT ARE OFFERED:—For best 10 pounds of comb honey, $5.00 in supplies at catalog prices, by The A. I. Root Co.; for best 10 pounds of extracted honey, $5.00 in supplies at catalog prices, by G. B. Lewis Co.; for best 10 pounds of beeswax, $2.50 in supplies at catalog prices, by A. G. Woodman; for most practical new invention, $2.50 in supplies at catalog prices, by M. H. Hunt & Son; for the best pound section of honey, one copy of new edition of "Advanced Bee Culture," by W. D. Soper; to each one winning one or more of the above prizes, one year's subscription to the Review, by W. Z. Hutchinson; to each one winning one or more prizes offered above, one year's subscription to the American Bee Journal, by George W. York.

The first session of the convention will be held at 1:30 p.m. Thursday, Feb. 1. A good crowd and a fine time are expected.

ELMORE M. HUNT,
Bell Branch, Mich. *Acting Secretary.*

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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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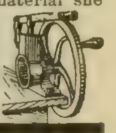
Farm Telephones.—The open winter that we are having are golden days for the farmer who wants to get a telephone line started in his community. Now, when his neighbors are beginning to recall the hard winter of a year ago and to look about for comforts for the time when they will be almost shut in again, the man who has something to offer which will keep the entire family in close touch with their neighbors, their physician, grocer, etc., and afford them all the social privileges of townspeople, should have no trouble in getting their co-operation in the building of a telephone line. The cost of building a line is very small. A good line can ofttimes be built at an expense of from twenty-five to thirty dollars for each subscriber. It is very important that a reliable telephone, one that can always be depended upon, be chosen.

Valuable information on the building of lines and selecting of telephones can be secured free of charge by writing to the Stromberg-Carlson Telephone Mfg. Co., Chicago, Ill., or Rochester, N. Y. We would advise any one who is interested in this subject, to write for booklet *at once*, not forgetting to mention the American Bee Journal when making the request.



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Revised by Dadant—Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

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20 Packages FOR 10c.

	KINDS.		KINDS.		KINDS.
Bat. Button,	10	Poppy,	18	Portulaca,	20
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Sweet Willam,	8	Balsam,	12	Pinks,	10
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Sweet Mignonette.

All of the above sent to any address, post-paid, for **10c.** silver or six two-cent stamps. As a premium and to introduce our seeds into every household, we will also send a **collection of fine beautiful bulbs FREE** *with Catalogue.*

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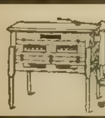

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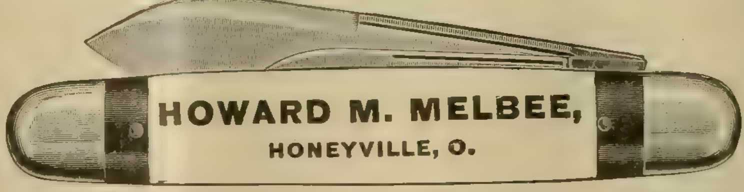
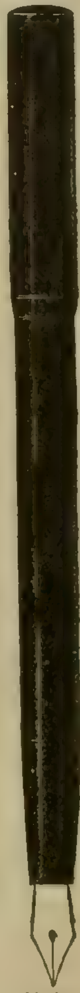


(This cut is the full size of the Knife.)



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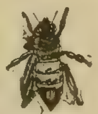
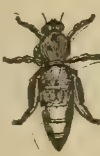
NOVELTY POCKET-KNIFE

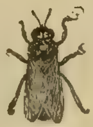
(Name and Address on one side—Three Bees on the other side.)



Worker



Queen



Drone

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

SOLID GOLD FOUNTAIN PEN

Finally, we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.

We mail this **Gold Fountain Pen** for only $1.25, or for $2.00 we will mail it and the weekly American Bee Journal for a whole year.

☞ Sample copy of the American Bee Journal free; trial trip of three months (13 copies) for 20c; regular yearly price, $1.00. Address all orders to

GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.

Get Eggs in Winter.—One expert says: "There are several ways to secure eggs in winter. However, there is no cheaper way than by feeding green bone. Use a mash for an evening meal; during the day feed wheat in litter, thus making hens work for it. Feed twice a week all the fresh ground-bone they will clean up; give them comfortable quarters to roost in, and my word for it, you will get eggs when eggs are high." The Dandy Green Bone Cutter, made by the Stratton Manufacturing Co., of Erie, Pa., will help you to get eggs in winter. They send it on 15 days' free trial, also offer to send *free* a beautiful catalog full of valuable suggestions for feeding. It will pay you to write for it, and to order a machine on trial. Kindly mention the American Bee Journal paper when writing.

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In mortality to those insured in the
TOTAL ABSTINENCE DEPARTMENT
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EACH POLICY HOLDER is entitled to a Bond issued by the National Total Abstinence League.
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General and special agents wanted. Address,
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$4.60 FOR THIS "ECONOMY" BOILER AND FEED COOKER

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The "Economy" Feed Cooker is the best built cooker on the market today. It is constructed so as to get the very best results from the smallest amount of fuel possible. The kettle is well and strongly made of the smoothest cast iron, and has a handle on each side so that it can be removed from the casing instantly. Will last a lifetime. The casing, or jacket, is one continuous sheet of cold rolled boiler steel, supported at the bottom by a heavy wrought iron band. This cooker has the largest fire door of any made, and is the strongest, most serviceable feed cooker ever sold at such a price, freight paid. Made in seven sizes to suit every need; furnished with hinged cover, elbow and one length of pipe with damper. We guarantee this cooker for one year. Send money with order today, or write for our large 1,000-page catalogue giving other sizes and thousands of money-saving bargains for the farmer and his family.

If you want to save 10 per cent on everything you buy, we have a plan you should know about; it will save you from $150 to $250 a year. Only costs a stamp to find out all about it.

The object of this Society is to save money for its members. For full information let us tell you how we do it.

Co-Operative Society of the National Supply Co.
Lansing, Michigan Chicago, Illinois

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We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

LOWEST PRICES

and our excellent freight facilities enable us to make prompt shipments over 15 different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the

Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. SPECIAL DISCOUNTS now. Write to-day. Address,

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Catalogs issued in English or German.

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By a simple but effective mechanical arrangement and a new application of nature's laws the "CONTINUOUS" HATCHER makes it possible to keep up a continuous hatching of chicks from one machine—A FRESH HATCH EVERY DAY. Removing chicks from machine and replacing them with fresh eggs does not interfere with or retard process of incubation. This is possible with no other incubator. One

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will hatch as many chicks as several ordinary incubators. Simple, effective, sure. Free catalog tells how. Write for it today.
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That are Sure to Satisfy

I have been growing evergreens and forest trees for 31 years, always with one idea—trees that satisfy. When you buy Hill's trees you get honest value—highest quality. My catalogue is my salesman; it's free. Contains 48 pages illustrated with beautiful pictures; describes all kinds of nursery stock for all purposes—hedges, windbreaks and ornament. Also fruit trees, shrubs and vines. 50 Best Bargains ever offered—$1.00 to $10.00 per 100 Prepaid. Everything first-class, guaranteed exactly as represented. Write for catalog today.

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And Prompt Shipments
Is what we are making for our customers.
—DOVETAILED HIVES AND SHIPPING-CASES—
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Homes and Prosperity for Everybody
TEXAS

produces more honey and other money crops than any other State.

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We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

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Original
Direct Draft
CLEAN
Bee Smokers

Pat'd 1878, '82, '92 & 1903.

4 Largest Sizes Soot Burning
Never Go Out
And last from 5 to 21 years

Tin 4-in. Smoke Engine 3½-inch 3-inch 2½-inch 2-inch Wonder
$1.50. $1.10. $1.00. 90c. 65c—per mail.
Sent on receipt of price per mail.

T. F. BINGHAM Farwell, Mich.

Otisville, Pa., Jan. 18, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. Fred Fodner.

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Tells of great land values, of business opportunities, of a State where more railroad building is going on than in any other State in the Union South Dakota Farmer is issued every week. Price, $1 per year.

SPECIAL OFFER—Send this ad with 35 cents for a year's subscription. Address,
SOUTH DAKOTA FARMER, SiouxFalls, S.D.

51A10t Please mention the Bee Journal.

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Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

☞ J. G. Goodner, of this State, writes me that he "prefers to pay $25 for a Rietsche Press than do without it."—A. G.

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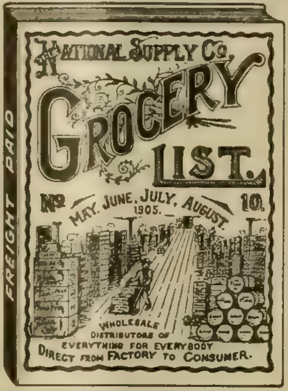
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National Supply Co.
Grocery List.
No. 10
May, June, July, August 1905.
Wholesale Distributors of Everything for Everybody
Direct from Factory to Consumer.

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FREE This catalogue will save you money on your grocery supplies.

—FREIGHT PAID—

What do your groceries cost you a year? Will you buy them of us if we can prove that we will save you from 10 per cent to 20 per cent and *pay the freight?* That certainly is an amount worth saving; it is worth the trouble of asking for the proof. Get our large Grocery List and compare our prices with what you have been paying. Then put us to a greater test—send us a trial order and compare the goods and the prices. If we do not save you big money, send the goods back at our expense. The grocery bill is the biggest part of the family expenses. We will cut it almost in the middle and guarantee everything we sell. We can do this because we buy in immense quantities—carloads and trainloads—and we give you the benefit of our ability to buy cheap; in fact we can sell to you at just about the figure your local dealer would have to pay. We save you *his profit* and the *freight* besides.

To save still another 10 per cent. become a member of the **Co-operative Society of the National Supply Co.** We'll tell you how to get this extra 10 per cent discount, if you will write for full information. An easy way to make money.

If you want to save money get our catalogue and learn just how cheap you can buy groceries from us. Catalogue is ready and lists everything in the grocery line. We send it *free.*

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PROFITABLE POULTRY

You can raise it and make money with our free 64-page poultry guide. It tells how to avoid mistakes and failures; tells what to breed for biggest profit; how to feed, rear and hatch successfully. Tells about Berry's "BIDDY" incubators and brooders, the kind that "run" themselves—the kind to buy. Contains plans for brooder, colony and poultry houses, yards, poultry farms. Also cuts of our pure-bred poultry with prices of birds and eggs for hatching. It's a book that will be appreciated by every one. A postal brings it to your home. **Berry's Golden Rule Poultry Farm,** Box 72, **Clarinda, Ia.**

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Everything the bee-keeper needs. Distributing house for **Lewis' Goods at Factory Prices.** Now is the time to buy for next season.

Cash Orders for regular Supplies before February, 6 percent Discount.

FINE EXTRACTED HONEY in cans or barrels. The best the world can produce Samples 8 cents, to pay postage and packing. How much can you use? Prices quoted quick on the quantity you mention.

We buy BEESWAX at all times in the year. Send for our Catalog and "Special"—free.

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WE know it is a good hive.
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Here is a hive without dovetails. The corners are not nailed. It can be as easily taken apart as put together—in a few moments. Simple in its construction.

We also have the Dovetailed and Langstroth Hives, Sections, Smokers, and everything used in the apiary.

See our special offer in last week's issue of American Bee Journal. You'd better write us to-day and order five of "THE ELGIN."

A postal will bring you our price-list.

The National Supply Co.
ELGIN, ILL.

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WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**

M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

WANTED

The agency for Southern Iowa or the entire State, of some bee-supply manufacturer. Railroad facilities—none better—4 direct lines. Experienced in this line as well as bees. Address,

2A2t A. L. BARKER, **Humeston, Iowa.**

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Please Mention the American Bee Journal when writing Advertisers

Stingless Bees

Are worthless as honey-producers. CAUCASIAN BEES are not stingless, they are *gentle.* They produce honey. Try them next season. Have your queens, both *Caucasians* and *Italians, bred to order,* and then you will have what you want. Address,

ROBERT B. McCAIN, Yorkville, Ill. R.F.D.

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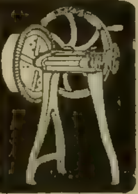

GET A DANDY

BUSHELS OF EGGS follow the feeding of cut bone. The **DANDY Green Bone Cutter** is the simplest, fastest and easiest bone cutter made. Price $5.00 up. Sold on 15 days trial. Satisfaction or no sale. Send for price book and *Special Proposition.*

Stratton Mfg. Co., Box **21**, Erie, Pa.

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For Sale—25,000 Lbs. of well-ripened Spanish-needle Extracted Honey put up in new 60-lb. tin cans—6c a pound for the lot, or 6½c for less, **F. J. GUNZEL, Weiner, Ark.**

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FOR SALE

Until further notice, finest quality new crop California Water-White White Sage and Light Amber **HONEY** in 60-lb. tins, 2 in a case; new cans and new cases. Write for prices and samples, and state quantity you want.

HILDRETH & SEGELKEN
265 & 267 Greenwich Street, NEW YORK, N.Y

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Big Discounts on Bee-Supplies

The following discounts apply on all orders except honey-packages for current use:

For cash orders before Oct. 1—10 percent

Nov. 1	9 percent	Feb. 1	6 percent
Dec. 1	8 "	March 1	4 "
Jan. 1	7 "	April 1	2 "

We handle **LEWIS' GOODS,** and carry a **large stock,** which insures **prompt shipment.** Catalog free. Address,

LOUIS HANSSEN'S SONS,
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Trees, Plants & Seeds THAT GROW

Best quality. Good bearers. Low prices. Apple 4c; Plum and Cherry 12c; Peach 4c; all budded; Concord Grapes 2c; Forest Tree Seedlings $1 a 1000 up.

GERMAN NURSERIES Carl Sonderegger, Prop.

Tested seeds very cheap. Freight paid on trees. Catalogue, English or German, free. Write for it today. Address GERMAN NURSERIES, Box 30 Beatrice, Neb.

PURE ALFALFA HONEY

IN 60-POUND CANS

We have a good supply of **Pure Alfalfa HONEY** in 60-pound cans that we can ship by return freight at these prices: 2 cans, boxed, at 8½ cents a pound; 4 or more cans at one time, 8 cents a pound—all f.o.b. Chicago. Cash with order. Sample, by mail, 8 in stamps, to cover package and postage.

Address,

YORK HONEY AND BEE SUPPLY CO.
141–143 Ontario St., CHICAGO, ILL.

85c for 15 NAMES For names and P. O. of 15 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 50c a year. F. C. is a wkly., 25 yrs. old, 1,300 pages a yr. Sample free. Farmer's Call, Quincy, Ill.

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Lowest Prices

Big Discount for Early Orders

On Cash Orders

Before November 1	9 percent
" December 1	8 "
" January 1	7 "
" February 1	6 "
" March 1	4 "
" April 1	2 "

Bee-Supplies

OF ALL KINDS

Established Nearly 25 Years

We have published **THE AMERICAN BEE-KEEPER** for 15 years (monthly, 50c a year.) The largest and best illustrated magazine of its kind for the price published. Edited by two of the most experienced bee-keepers in America.

Sample copy free.

Our large, illustrated Price-List of Supplies free on application. Address,

The W. T. Falconer Mfg. Co.

JAMESTOWN, N. Y.

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Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

Complete Stock for 1906 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the **LOWEST, ESPECIALLY for the SOUTH**

as 'most'all freight now goes through Cincinnati.

Prompt Service is what I practice.

You will **SAVE MONEY BUYING FROM ME.**

Satisfaction Guaranteed.

Catalog mailed free. Send for same.

6 Percent Discount for January

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

Chicago, Jan. 8.—The market is steady with about the usual demand; the prices range from 14@15c for best grades of white comb honey. There is not an active demand for off grades, which usually sell at 1@3c per pound less. For extracted a steady demand exists for the best grades at 6½@7c, but for sour or off flavors there is practically no sale.

R. A. Burnett & Co.

Cincinnati, Dec. 29.—There is no demand for honey at the present time, on account of the holidays. However, prospects for the coming year are bright, and we are looking forward to a revival of trade about Jan. 15. The price of comb honey remains firm: we quote fancy white at 15@16½ cents. Extracted: amber in barrels at 5@6½c, according to the quality; fancy white in 60-lb. cans at 7½@8c; amber in cans at 6@7c, (The above are our selling prices of honey.)

We are paying 30c per pound delivered here for choice yellow beeswax.

The Fred W. Muth Co.

Toledo, Oct. 17—The honey market remains firm, with good demand, and prices the same as last quotations. Fancy white comb brings 15c; No. 1, 14c; fancy amber, 13c; buckwheat, 13c. Extracted, white clover, in barrels, 6¼@6½c; amber, in barrels, 5@5¼c; in cans, 1c to 1½c higher. Beeswax in good demand, 26c cash, 28c trade.

Griggs Bros.

Indianapolis, Dec. 15.—There is a tendency for higher prices on best grades of honey. The demand for strictly fancy white comb honey exceeds the supply. Demand for lower grades of comb honey not good. Numerous shipments of honey arriving, but no one producer seems to have very great quantities to offer. I quote fancy white at 15@16c; No. 1 in poor demand at 12c, and amber dull at 10c. Best grade extracted brings 8@9c in 60-lb. cans; amber slow at 6c. Beeswax, 30@33c.

Walter S. Pouder.

New York, Jan. 10.—Comb honey pretty well cleaned up and there is still a fair demand. We quote fancy white at 14@15c; No. 1, at 13c; amber, at 12c; buckwheat, at 10@11c. Extracted in fair demand, especially California, with abundance of supply. We quote white at 6½@7c; light amber, 6@6¼c; amber, 5½@5¾c; buckwheat, 5½@6c; Southern, in barrels, not much demand, and rather hard to sell, at from 50@60 cents per gallon, according to quality.

Beeswax firm and steady at 30c per pound.

Hildreth & Segelken.

Denver, Nov. 11.—No. 1 white comb honey, per case of 24 sections, $3.35; No. 1 light amber, $3.00; No. 2, $2 50@3.00. Extracted honey, 6¾@7 cts. per pound. Supply is light and we coud make quick sales of consignments at above figures. We pay 24c for clean, yellow beeswax delivered here.

The Colo. Honey-Producers' Assn.

Cincinnati, Jan. 8.—The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5¼@5½c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c.

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AMERICAN BEE JOURNAL

46th Year. CHICAGO, ILL., JAN. 25, 1906. No. 4.

APIARY OF WM. B. LOWE, OF COHOES, N. Y.

APIARY OF ALLEN LATHAM, OF NORWICH, CONN.
(See page 79.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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2d.—To protect and defend its members in their lawful rights.
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(INCORPORATED)

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2. To publish facts about honey, and counteract misrepresentations of the same.

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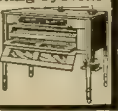

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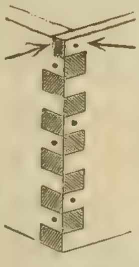

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—Yes, we know that seems to be reversing the usual order of things.

—But you just stop long enough to conjure up the names of say the half-dozen most famous "makes" of pianos.

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A B C of Bee-Culture, by A. I. & E. R. Root.—A cyclopedia of over 500 pages, describing everything pertaining to the care of the honey-bees. Contains about 400 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 75 cents.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

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"The Honey-Money Stories."—A 64-page-and-cover booklet, 5¾x8½ inches in size, printed on best quality paper. Many short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each ocupying a full page, but in different parts of the booklet. It has in all 33 fine illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keepers' Lullaby." This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price, 25 cents, or 3 copies for 50 cents.

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We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

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Experience We have been at this business for over 40 years. This means a great deal. Not only are we intimate with every phase of bee-keeping, but we have an accumulation of knowledge that is invaluable. All these years we have been learning what the bee-keeper really wants, and how to supply it down to the smallest detail. That means the goods you get bearing Root's trade-mark are the very latest and best known to date. All of these advantages cost you nothing over standard prices.

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Discount for January is 6 Percent.

TESTIMONIALS

We are always greatly pleased to see your new editions of your new catalog of Bee-Keepers' Supplies, etc. We shall certainly make ample mention of it in our paper. You are our best authority in regard to all matters of bee-keeping.
Yours very truly,
C. H. Howard, *Editor*,
Farm, Field & Fireside.

Dear Sirs:—The shipment of hives and bee-supplies which you sent me arrived in excellent condition, and every one who has seen them is delighted with the accuracy and precision of the workmanship of every detail, both of the goods and the manner in which the order was executed.
Yours very truly,
Cape Colony. Frederic T. Bioletti.

I have just now unpacked and examined the goods sent by you, and am greatly pleased with the lot. W. H. Gill.
Scottsville, Ariz.

Gentlemen:—I am well pleased with your prompt way of doing business. The goods are just simply nice. Many thanks. Yours truly,
John D. A. Fisher.

I do not want anything set up, as I would rather set the hives up myself. Besides, it is a pleasure to put Root's hives and fixtures together.
Tiffin, Ohio. John L. Funk.

Your promptness and square dealing indeed make it a pleasure to do business with you, and I thank you. Harry H. Larkin,
Buffalo, N. Y. Care Larkin Co.

My bill of bee-supplies reached its destination in due time. I am under obligations to you for the kindness, for a delay would have been a loss to me. Please accept my thanks.
Treadwell, Tenn. W. W. Waters, M D.

I desire to thank you for being so prompt in sending the sections I ordered from you. They came in less time than it takes to tell it.
Kent, Ohio. L. G. Reed.

The consignment of bee-material received to-day. Your promptness in filling orders is remarkable, especially when the circumstances are considered. I am very well satisfied with the goods and your dealing. I take pleasure in having introduced "*ROOT'S GOODS*" into this neighborhood.
Fredericksburg, Iowa. Rev. Wm. Engle.

Our Catalog for 1906 is ready. Write for a copy.

THE A. I. ROOT COMPANY, MEDINA, OHIO.

Branches: 144 E. Erie St., Chicago. 10 Vine St., Philadelphia. 44 Vesey St., New York.

ESTABLISHED IN 1861
THE AMERICAN
BEE JOURNAL
OLDEST BEE-PAPER IN AMERICA

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter)

Published Weekly at $1.00 a Year by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor · CHICAGO, ILL., JANUARY 25, 1906 · Vol. XLVI—No. 4

Editorial Notes and Comments

A 32-Page Number Again

It will be noticed that this is another 32-page number of the American Bee Journal. It was made so on account of the index for 1905, and also by reason of the length of the Ontario convention report. Like all its predecessors, this copy will repay a thorough reading. And its cost to the subscriber is less than 2 cents! Can't you help to get other bee-keepers to read it regularly?

Convention Program—Question-Box Best

Regarding the Colorado State convention, Jan. 30 and 31, R. C. Aikin says in Irrigation:

"As yet no set program has been arranged. In fact, it seems some of our best conventions are the more informal ones."

Probably not many would dissent from that opinion. The only wonder is that in so many cases live discussions are crowded out by too many or too long papers. It is a rare case that will justify any paper at a convention, except one to open, but not to complete, a discussion. And with the right presiding officer generally a topic is better to be opened without the paper.

Prices of Honey—Are They High Enough?

We have received the following from Mr. M. A. Gill, one of Colorado's leading comb-honey producers:

SHOULD THE PRICE OF HONEY GO HIGHER?

FRIEND YORK:—I have asked this question, and will answer it from my own view-point, and would like to read other opinions on the subject.

I am not one who thinks the prices for comb and extracted honey should be higher than the present market quotations. Neither do I believe that honey and butter should go hand in hand with regard to prices. Honey outranks butter as a luxury, but is not the equal of butter as a necessity; neither does it cost as much to produce it, pound for pound.

What the honey market needs is an increased consumption of the pure article upon the tables of the masses. And how best to do this is the question before the honey-producers of to-day. Unfortunately for the best interests of the honey-business, the great mass of retailers who place the honey of the country in the hands of consumers, are ignorant on the question of honey, and a large portion are unscrupulous in making sales. For many an ignorant clerk or salesman has represented that here is a pure article (of either comb or extracted) made by the bees, and here is an article that is manufactured; when both are pure, but one grade may be granulated or amber-colored. Sometimes I think they do it to make a sale, and sometimes to appear wise. And I believe as much harm is done in this way as by the newspaper canards, for the actual consumer is given to understand that manufactured honey is on the open market, and the next time he buys he has to be shown again.

We who produce honey, and sell in carload lots to the jobbers, can do but little in the great work that needs to be done, for when the car has gone forward we feel like taking a little rest, and then begin operations for the next crop.

But what the consumer and producer both need is more men like Mr. Niver, who have eaten of the insane root "Ambition," who will cover the whole country, who know what pure honey is, and who will open a bureau of intelligence in every neighborhood, telling the glad news that honey *is pure*, and that it's cheap and healthful. And then consumption will increase, and prices will take care of themselves.

M. A. GILL.

Well, there's a question for the debaters. Mr. Gill has given his side of the case very plainly and forcibly. He seems to think that honey prices are about high enough. Well, they probably are in some "localities." But we believe in some markets they are too low. Still, as Mr. Gill says, increase the consumption or demand and "prices will take care of themselves."

What do you think about it?

Inspectors of Apiaries in Canada

Heretofore the Province of Ontario has had an inspector and a sub-inspector. At the last meeting of the Ontario Association, it was decided to ask the Government to change this so as to have the Province divided into 3 districts, with an inspector for each. This will not only give a 50 percent stronger force, but it will save much travel on the part of the inspectors.

Why is the Royal Cocoon Incomplete?

Allen Latham is not satisfied with the old answer that it is "for the easy stinging of the occupant by a rival," and makes a guess which is possibly nearer the mark. He says in the American Bee-Keeper:

"The cocoon is imperfect simply as a matter of convenience and safety to the larva spinning it. The cell in which she lives is over-large, and if she once gets turned about in this cell she finds it extremely difficult to regai the normal position. In consequence of this condition sh spins a cocoon about that portion only of the cell which sh can conveniently and safely reach without letting go from above. This answer has not been tested for its correctness to my complete satisfaction, but as a guess it is logical, and has not been founded upon the throw of a dice. In connection with this is seen why the larva does not spin the cocoon to the extreme apex of the cell, spinning down only so far as she can conveniently reach."

Miscellaneous News ❖ Items

The Annual Index for 1905 will be found in the central 4 pages of this number of the American Bee Journal. Those pages can very easily be torn off the wire stitches and put in the proper place at the back of the last number for 1905, and then filed away, or bound, if so desired.

We regretted very much not being able to get out this index so as to have it in the last issue of 1905 where it belonged, but it was an utter impossibility to do so, owing to the National convention held here at that time. But it will be all right if it is transferred as directed.

* * *

Mr. Orel L. Hershiser, of Buffalo, N. Y., reported Jan. 15 that he had been suffering from the grip most of the time since returning home from the National convention. He says that bees had the finest winter flight imaginable that day (Jan. 15). The temperature at 2 p.m. was 47 degrees above zero, the wind hardly noticeable, no snow on the ground, the weather hazy, but the sun shining through it all day. Mr. Hershiser's article in this week's issue will be read with much interest, as his Combined Hive-Stand and Bottom-Board seems to be the thing, both for moving bees and for cellar-wintering.

* * *

The Ontario Convention Report—a large part of which appears in this number—will doubtless be read with great interest, not only by our Canadian subscribers, but by all others. We regretted not to have a copy of Mr. Lowey's paper to appear in its proper place, but hope to get it in time to publish it with the balance of the report next week. Canadian bee-keepers always have good conventions; they have some expert bee-folks over there, so there is no reason why they should not have fine meetings. They were well represented at the Chicago-Northwestern and National meetings in Chicago last month, as has been mentioned before.

* * *

Hershiser Hive-Stand and Bottom-Board.—Through the courtesy of Gleanings in Bee Culture we use the engravings in the article by Orel L. Hershiser, on pages 73 and 74. The descriptions of the several illustrations which appeared in Gleanings with the engravings, in January, 1905, are as follows:

The salient objects of this combined hive-stand and bottom-board appear clearly after a careful study of the illustrations presented herewith.

Referring to the lettered parts of the engravings, A is the bottom-board; B the front, or alighting-board; C the bail-like support of the front, and D the flexible wire support of the rear ends of the bottom-board when the same is in ordinary outdoor use; E the pins used to regulate the size of entrance to hive and depth of space under the bottom-bars of frames; F the upper inside rim which forms a shoulder against which the bottom-board rests snugly when held in its highest position by the bail-like support C and the flexible wire support D; G is the hooks by means of which the alighting-board B is coupled to the bottom-board A—loops in the alighting-board B corresponding to the hooks in the bottom-board A; and H is the front sill.

Fig. 1 is a longitudinal sectional elevation through a vertical plane on a line between the two sides, which passes through one of the loops G, of a combined hive-stand and bottom-board, showing the relation of the various parts to the bottom and alighting-boards A and B respectively, in normal position for ordinary outdoor use. This figure, in connection with Figs. 2 and 3, clearly shows the manner of supporting the bottom-board A by means of the flexible wire spring D and the bail-like support C. The bottom-board A is lowered, for the purpose of enlarging the entrance to the hive, by pushing the bail-like support B back until it engages the pins E. One or more of these adjustments may be provided as needed or desired. The front board B is here shown in its capacity as an alighting-board, it being coupled to the hooks G of bottom-board A, by means of the corresponding loops on the upper edge of the alighting-board.

Fig. 2 is a perspective view of the hive-stand and bottom-board detached, showing details of construction of the upper and under side of the bottom-board A and of the stand. It will be observed that the flexible wire spring D is self-adjusting to any angle of the bottom-board A required in enlarging or contracting the entrance to the hive, it being sufficiently yielding for this purpose, and at the same time rigid to the extent of holding the rear end of the bottom-board A firmly against the under side of the rear portion of the upper inside rim F, Fig. 1. It will also be observed that the bail-like support C may be inclined at any desired angle for the purpose of lowering or raising the front end of bottom-board A to enlarge or contract the entrance to hive, and that, when closing the hive and stand, the bail-like support C is pulled forward until its upper part drops into the rabbet of the front sill H (rabbet shows in Fig. 2, but is not lettered), thus permitting the bottom-board A to be dropped to lower position where it rests snugly upon the upper surface of the lower inside rim into which the bail-like support C hinges.

Fig. 3 is a perspective view of the combined hive-stand and bottom-board adjusted for ordinary outdoor or summer use, with bottom-board A in highest position, resting snugly against the shoulder formed by the upper inside rim F; the front board B in position as an alighting-board, and the flexible wire support D shown by dotted line. The separate view of the alighting-board B, Fig. 3, shows the loops by means of which it is coupled to the bottom-board A by engagement with the corresponding hooks G, Fig. 3. It will be observed that the front board (alighting-board) B is provided with a substantial cleat the full length of its under side, joined in such position as will support it at the proper angle when in use as an alighting-board, and also to lock the bottom-board A securely in its lower position when used as a front board to confine the colony of bees within the hive and stand.

Fig. 4 is a perspective view showing the bottom-board A lowered and the alighting-board B inserted as a front board, which closes up the hive and stand as used in cellar-wintering or in the transportation of bees. The bottom-board A is held securely in place by the cleat just beneath the flexible wire spring D and by the cleat on the front board B, shown on the under side thereof in Fig. 3. When so closed, the bottom-board A rests snugly on the cleats forming the lower inside rim into which the bail-like support C is hinged at sides of the stand, thus making it impossible for the bottom-board A to get shifted from its place while the front board B is inserted. A small ring fastened midway of the lower edge of the front board B, as shown in Figs. 1, 3 and 4, is convenient in inserting and withdrawing it. The front board B may be held in place by means of a button, or by a wire key dropped through eyelets screwed into the front of the stand just above the upper and below the lower margins of the front board B. Devices for holding the front board B in place, when stand is closed, are not shown in the engravings.

The wire-cloth screen at sides of stand, as shown in Figs. 2, 3 and 4, is for the purpose of giving needed ventilation at all times when the colony of bees is enclosed.

Referring to the engravings in a recent letter from Mr. Hershiser, he adds the following:

"Some important improvements have been made in the details of construction since the engravings were made. The stand is now made 1⅜ inches lower, which gives much greater strength, without detracting from any of its useful features. It also makes it cheaper to construct. The rear supporting device for the floor-board is now made of two flat springs, one at each side of the rear end of stand. The front supporting device which holds the floor-board in position is now hinged in the front sill or cross-piece instead of the lower side-cleats. All this makes the device neater in appearance, and the alighting-board is naturally in a more nearly horizontal position. Other minor improvements have also been incorporated."

* * *

The Wood Binder (or Holder) for holding a year's copies of the American Bee Journal is a splendid thing for the purpose, and also for the little money asked for it. It is mailed for only 20 cents, or with the American Bee Journal a year—$1.10 for both. But we have run out of them lately, though we have an order in for a good supply which we expect to receive and be able to mail about Feb. 1. The reason of delay is because of the factory making them is behind in its orders. So those who have ordered "Wood Binders" of us will now know why they have not received them. They will be mailed just as soon as we can get them ourselves. In the meantime we would advise others of our readers to order them, as they certainly are a very convenient thing for keeping together for ready reference the copies of the American Bee Journal as they are received from week to week.

* * *

You Can Help Greatly—both us and the advertisers in the American Bee Journal—if you will not only patronize those who advertise in these columns, but if you will also not fail to mention having seen the advertisement in the American Bee Journal whenever you write to any of them. If it were not for the advertising patronage we receive the American Bee Journal could not be furnished at the low price of $1.00 a year. So kindly help all concerned by doing business with our advertisers and mentioning that you saw their advertisement in the American Bee Journal.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

A Rising Canadian Bee-Keeper—Contraction When Hiving Swarms

Frank P. Adams, of Brantford, is one of our rising young Canadian bee-keepers, who, last season, managed a large apiary exclusively for comb honey and queens. In the December Canadian Bee Journal he has the audacity to rise up and criticise some of the old established ideas about comb-honey production. If he had not produced about 10,000 pounds of comb honey in his one yard last summer we might be tempted to advise him to "go away back and sit down." As it is, we shall proceed "to pick his bones."

Mr. Adams criticises the method of contraction of brood-chambers when hiving swarms for the production of comb honey. Strong swarms, he says, "instead of staying put in the little brood-nest, fool their time away in repeated attempts to change their quarters, and try the operator's strength and patience in an endeavor to get them back to work again." I have had little difficulty on this score where they were given the whole brood-chamber for 3 or 4 days, or even a week, then contracted. Aspinwall recommended, at the National, contracting in a different way by separating the combs with slatted dummies instead of crowding the combs to the center and dummies at the outside.

FRANK P. ADAMS

That they fill this brood-chamber quickly and swarm again, as Mr. Adams says often happens, is a serious objection to the contracted brood-chamber. But the next objection I can not see how to avoid; whatever will really increase the profits of the apiary I am prepared to do or hire done, if possible. I mean where he says:

"There is another objection to the contracted brood-nest that becomes serious as the number of our colonies multiply, and that is the work of going through the recently-hived swarms for the purpose of taking out part of the frames and replacing them with dummies, and again after the honey-flow taking out the dummies and putting back frames in their place. The work in a fair-sized yard is enormously increased if we must be constantly tinkering with the brood-nest. In the spring, before the honey-flow is on, it is profitable to go through the yard and make use of every little kink we know of in order to build up colonies to their maximum strength, but when the flow commences there is plenty of work with the swarms and supers to keep our time fully occupied."

By "swarms" in the last sentence, I think Mr. Adams can not mean natural swarms, but rather shaken or some other sort of artificial swarms. I look back on my years of experience with natural swarming as on a dismal nightmare. Mr. Adams says further:

"In many localities the flow shuts off as soon as the clover and basswood is through blooming, and it is only in favorable years that the fall flow is sufficient to keep the bees from drawing on their stores for late brood-rearing. With such conditions, it is evident that winter stores must be secured from the white honey-flow, and unless part of the yard has been put to filling frames to supply the rest in the fall, our only recourse is the sugar-barrel. Under these conditions we might just as well have a few frames filled out in the brood-chambers while the flow is on, so as to supply them from supers."

This reads well, and often works all right, but when the flow stops unexpectedly we have these brood-chamber combs filled and sections only partly filled. It would seem to me the more cautious plan to allow room for only brood in the brood-chamber, and when sections come off add combs of honey from elsewhere. Mr. Adams continues:

"Big swarms mean fast work in the supers, and we are unable to build up our colonies so that the hives are crowded with bees from top to bottom, then it is always possible to unite two weak colonies, so that their combined forces will hustle the honey into the supers much faster than they would have done had they been hived separately, and if our swarms are strong—very strong—it will be found that 8 Langstroth frames filled from top to bottom with foundation are none too many in the hive-body, and that a colony so fixed, and with a good queen, will go ahead with the work in the supers at a surprising rate, and, having plenty of room below, will go into winter quarters stronger in bees and require less feeding than one that has been contracted down."

After all, Mr. Adams and I are not so far apart, for my idea of a contracted brood-chamber is a 12-frame contracted to about 7 frames. All this goes to show the complications introduced, and corresponding skill needed, for successful comb-honey production.

Paragraphic Comments

To A. C. Miller's tar-paper-wrapped hives "York County Bee-Keeper" says, "No, siree," for an old-fashioned Canadian winter.

Herbert Kirkham, Vladimir, Russia, writing in the Canadian Bee Journal, says their bees are practically in the cellar 6 months and outside 6 months. About 90 percent of the bees are in log hives. Their principal crop is from buckwheat, yielding 30 to 40 pounds per annum. He concludes by saying the principal foods of the Russian peasants are "salted cucumbers, rye-bread, sour cabbage, and buckwheat porridge." Is it any wonder they throw bombs at the Czar?

The Farmer's Advocate, Montreal Witness, and Family Herald, each give reports of a column or more of the National convention held in Chicago last month.

A Fraternal Greeting

Welcome "Southern Beedom" to the columns of the "Old Reliable." "Canadian Beedom" extends to you a fraternal hand.

(*Aside in stage whisper.*) Cheer up, Canadian beedomites! Are we going to let any Southern department, or any other, for that matter, get ahead of *OURS*? Send in your experiences and ideas. I know Canadians are full of them. Plenty of time for them to grow these long winter evenings. Put them down on paper, and while you are helping some one else you will be helping yourself by crystallizing your own thoughts.

Weather Forecasts

In the Canadian Bee Journal R. F. Holtermann gives timely advice on studying weather signs. Our Lord, he says, who never made a mistake, nor spoke lightly, said, "Ye can discern the face of the sky and of the earth." So we can by studying "the tenor of seasons, the result of winds from certain directions, the deductions we may draw from certain clouds at certain times of the day, and the suggestions we get from certain sunrises and sunsets," learn to forecast the weather with a measure of certainty. This is particularly profitable to any agricultural pursuit.

Honey Around Edges of Flight-Holes

"Sister" Wilson (page 12) failed to note how bees carry honey away in small particles, some of which are liable to get stuck around the edges of any hole through which they fly.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

FOR AND AGAINST BLACK BEES.

Harry Lathrop against the black bees seems to be a temperate and reasonable opposer. Perhaps he's right, that those of us who keep a sort of lingering, half-way bias in their favor would be cured if we were obliged for a season to run a whole apiary of them. He is generous to say: "I fully agree that by proper care the black race might be made equal to any for honey-gathering qualities, and we all like the way they cap their comb honey, but they are so disagreeable to work with that I think very few having had experience with them would wish to increase the stock." Hope the brother who scolded me so roundly in a recent number will note how nearly Mr. Lathrop comes to saying the same things as I. Page 860.

BEES SPOTTING HIVES IN EARLY DECEMBER.

So Canadian bees were spotting things and showing signs of engorgement before the middle of December. Not as their owners would choose to have it. And the Canadian weather unusual in the direction of being sudden and unexpected. Apparently most climes can say, "Same here," if those strict words are adhered to. Page 861.

BABY NUCLEI AND QUEEN-REARING.

Mr. Pharr and the other Texans have certainly got the mating of queens in baby nuclei down fine. Only one little comb, which is only one-sixth standard size. No brood at all. Only 50 to 250 bees, according to weather. Say, I have an invention whereby a virgin and a couple of small horse-flies are baby-nucleied in a glass bottle. Cut the cork so the queen can get out and in, but her companions not.

Facts are facts; and the baby nucleus may be all right—afterthinkers to the contrary notwithstanding; but I confess to feeling toward the little device somewhat as a porcupine feels when he sees a dog. To populate 300 mating-boxes with the bees of one colony, and practically throw them away when the queens are sold, is somewhat attractive, I grant. Per contra, making the required number of old-style, 3-frame nuclei must make ugly havoc with an apiary, any one can see. No wonder breeders wish to avoid this. Mr. Atchley's remark that orders for queens are mostly received when none can be mated successfully in the baby boxes is instructive in its way. One thing I didn't think of before in this connection is that good, strong nuclei are liable to act like full colonies and resist the introduction of a virgin for a week or more. This wastes time sadly, besides sometimes killing a queen. Worse yet, they may leave her a damaged but not quite unsalable article at the end of the unpleasantness. The upshot is that the baby-farmers are not quite cannibals, nor yet fools; but still, it seems to me, that critics best serve the interests of apiculture (outside the breeder's yard) if they growl a good plenty. Pages 864, 865.

DEFINITIONS AND STANDARDS OF HONEY.

It rather seems to me that the official definition of honey is better than Prof. Eaton's amendment of it. The figures of the former are to be understood as outside figures, not average ones. No objection to honey having less than 25 percent of water; but if it has more it is simply sweetened water. No objection to it having less .025 of ash; but if it has more it is to be objected to as dirty. No objection to its having less than 8 percent of sucrose; but if it has more it is a mixture of honey and sugar.

STATES' PURE FOOD LAWS.

So when most States get pure-food laws—and well enforced—the laggard States have to serve as dumping ground. Hope they'll reflect betimes. Page 867.

WHAT DESTROYS BASSWOOD BLOOM?

I think it was not the bug that Gustave Gross saw in the basswood bloom that did *most* of the mischief, but a widely spread fungous disease. Bug may have helped on somewhat. At my location basswood bloom has been more or less unhealthy for several years. Last year some of the blossom-buds were transformed into monstrosities—grew too large but never opened. Page 867.

ADDITIONS TO NECTAR-YIELDING PLANTS.

A geranium with thorns like a blackberry (were the same either wild or tame) would be quite a curiosity to me. Of course, all additions to the list of plants that produce nectar is plainly visible quantities are of some interest. Page 867.

Our Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

A Sister's Report for 1905

DEAR MISS WILSON:—I had 10 colonies, spring count, last season, and increased to 21. I took off 400 pounds of white comb honey, 50 of dark, and about 6 pounds of extracted honey, as I extracted some unfinished sections.

Three Rivers, Mich. MRS. L. MACK.

Two Sisters Continue the Bee-Business

I will let you know of our great loss, that our father, Mr. Peter Blunier, died in February, 1905. He was a bee-keeper and a reader of the American Bee Journal for years. So now my sister and I must take care of the bees and the business. DINA BLUNIER.

Roanoke, Ill.

The hearty sympathy of the sisters is extended to you in your affliction. We are glad to welcome yourself and sister to our corner, and hope to hear from you frequently.

Getting Unfinished Sections Cleaned Out

MISS WILSON:—I see on page 810 of 1905, some sister has a bad time getting the bees to take the honey out of unfinished sections. I find it very easy if it is worked right.

Take the sections all out of the super that are wanted cleaned out, and set them promiscuously in the upper story of a colony you wish to feed. If any are capped over take a knife and uncap them, and then the bees will take it all out, but not otherwise.

By arranging the sections as above described, the bees see that there is something radically wrong with the arrangement of the hive that they do not understand, and the best thing for them to do is to remove the honey, which they *always* do.

Before putting the honey in the hive turn one corner of the glazed quilt back so the bees will have free access to the upper story. W. J. YOUNG.

Scotch Ridge, Ohio.

It is quite true that bees will nearly always remove uncapped honey, although they are sometimes very, very slow about it, and arranging the sections as described by Mr. Young will hasten their doing so. But the uncapping is the very thing we want to avoid. It involves not only the labor of uncapping, but a whole lot of extra labor, taking the sections out of the supers and putting them in again. When taken from the hives in the fall a good many supers may have only a small amount of honey in them, and yet some of that honey may be sealed. Now we do not think it worth while to disturb that super at all, only we want it emptied of all honey. When sorting our honey we like to have all sections to be emptied placed in the supers, separatored and wedged in tight, then thoroughly emptied of honey and packed away all ready to set on the hives the next season; and so far we have found only one way that we can be sure of getting this done, and that is by letting the bees rob them.

Mr. Bevins, on page 9, advises that No. 32 should have had empty combs. Although it was not mentioned on page 810 (1905), that was exactly what they had—8 extra brood-combs nearly empty; but even with this inducement the bees would not take the trouble to uncap the sections.

A Letter from a Young Sister

Dear Miss Wilson:—Papa said that he met you at the National convention, and that you said you were anxious for short articles from the sisters.

I have been working with the bees ever since I was 13 years old, which has been 3 seasons. I will give you some of my experience.

When I first commenced to take off comb honey I was some afraid, but as I worked on I became braver, until now I am not at all afraid. The first season I took off more than 100 pounds, and did not get many stings. After I had been working an hour or two, mamma came out to see if I was getting nervous.

The next year I took off some more honey, and helped papa put up queens.

Last year, as there was not very much comb honey, I did most of the extracting with the help of two neighbor girls. They did the work in the apiary house, which was to weigh, uncap, and extract the combs, while I took them off.

I caught most of the queens to fill the orders, and my little brother, or another boy, would put the wires on the cages.

I should have said that I just worked during the summer, as I go to school 9 months of the year. Last fall I went into the high school. Elsie Strong.

Clarinda, Iowa.

P.S.—I write this for the benefit of timid girls who are afraid to work with the bees. E. S.

We are very glad to have the benefit of Elsie's experience, especially as her papa tells me that she is the very best help he ever had in the apiary. And here is a nice little letter from Kenneth; I am sure he, also, will soon be a great help to his papa:

Letter from a Little Brother.

Dear Miss Wilson:—I am a little boy 7 years old. I help papa put up queens. I put the screens on the mailing cages after Elsie catches the queens. I also split smoker-wood after papa has sawed off the blocks. Kenneth.

Southern ✤ Beedom ✤

Conducted by Louis H. Scholl, New Braunfels, Tex.

Feeding Bees in Winter

In the South, where the weather is more or less warm and sunny during the greater part of the winter and bees can fly, it would be safe to give feed in liquid form if colonies are short of stores. In this case it would be better to heat the syrup, made of one part of best granulated sugar and one part of water. The sugar should be stirred into the boiling water and kept hot, but not boiling, stirring it continually until all is a clear liquid. I would feed it slightly warm, but not hot. It is not a good idea, however, to feed liquid syrup when bees can not fly, as cleansing flights are necessary after handling the syrup. Warm weather, too, is necessary for a certain amount of evaporation of the syrup, but the heating before being fed helps it greatly in this respect.

If the weather is so that syrup feeding is not advisable, and the bees must be supplied with stores, cakes of candy should be given. Be sure to use high-grade granulated sugar, dissolving it in boiling water. The ratio of sugar and water that suited me best for making these cakes is 4 pounds of sugar to a gallon of water. More sugar makes the cakes too dry. Boil this syrup carefully until it will harden to mold into cakes. If a little of the syrup dropped in cold water solidifies quickly it has boiled enough.

Now pour the syrup into large shallow pans of some kind, or a shallow wooden trough lined with butter, or paraffin paper, to prevent sticking. The syrup should be about 2½ inches deep so that when it has hardened it can be broken into cakes weighing about 6 pounds each. Cakes 6 inches wide and 10 inches in length will average this weight, but it is not necessary to have them in this exact shape. Pieces broken off the cake in any form and averaging about 150 cubic inches will weigh near enough to 6 pounds.

I have just made a number of oblong cakes for experiment, by pouring the hot syrup into paste-board boxes of the right dimensions for a single cake; the boxes first being lined with a sheet of butter-paper. The paper was easily peeled off after the cakes had hardened sufficiently. The boxes can be used over again several times, relining them with paper by simply placing a sheet over them and roughly pressing it down with the fingers.

In feeding, one of these cakes is to be laid carefully over the cluster of bees of each colony. If bur-combs extend over the top-bars, so much the better; but if not, then a few sticks should be laid under the cakes to allow the bees freer access to the cake from below. If no supers are on the hives empty ones can be placed on and a piece of cloth or old gunny-sacking should be packed over the top-bars and the candy cake. Where deep covers are used the supers will not be needed. In the more southern parts of the South supers are kept on the hives the entire year.

The question has been asked me several times, whether cane syrup or molasses would be satisfactory for feeding purposes. I should not advocate it, not on an extensive scale, at least. It has been used by some of our farmer bee-keepers. One such case I remember last spring. The bees were starving and needed food *at once*, but there was no other sweet in the house, except cane molasses. It was about 20 miles to the nearest town, and the roads were bad. To give relief to the starving bees at once, about a pint of the syrup was given, pouring it into the combs by laying them flat over the top-bars and allowing the surplus to drip off when the combs were replaced in the hive.

Care should be taken in all feeding manipulations not to incite robbing. This molasses feeding was done later in the spring. Sugar syrup replaced the former as soon as sugar was obtained, as the molasses contains undesirable constituents that are harmful to bees. It can not be safely fed in a diluted state on account of the formation of acetic acid when thinned with water. The acid is injurious to bees and kills them.

The same trouble obtains when feeding "pelloncillos." This is an unrefined sugar manufactured in Mexico, and comes in the shape of small cones weighing about 13 ounces each. As a feed it is cheaper than cane-sugar, costing about 3½ cents per pound. Cones of this sugar are placed above the brood-nest like the candy cakes mentioned before, and the bees help themselves. These "pelloncillos" are often used by Southwest Texas bee-keepers for feeding in "off" years. It is claimed that this sugar does not stimulate brood-rearing when fed in this way. It works all right for feeding in dry localities of the country, but in damp or moist locations the sugar takes up water and the formation of acetic acid results. If syrup is made from this sugar by adding water, fermentation takes place to a certain extent, and the amount of acetic acid is so great that bees fed upon the syrup will die by the thousands. Great care should therefore be taken when feeding "pelloncillos" when the weather is not absolutely dry.

Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when writing us on other matters.

Contributed Special Articles

Some Apiarian Comments and Experiments

BY ADRIAN GETAZ.

IT IS not often that I enter into a controversy with some other writer. I think that when I have expressed my opinion, and given my reasons for such, and the "other fellow" has done the same, that ought to be the end of it. That is, as a general rule; but there are exceptions. Sometimes a glaring error, or what may seem to be so, has been made, and should be corrected. This being understood, I wish in this contribution to correct what seems to me erroneous, and also describe some experiments that may lead to very important results.

Foul Brood and Adult Bees.

In reading the report of a late convention, I was quite surprised at the assertion repeatedly made by several of our best bee-keepers, that adult bees do not contract foul brood. If the reader will turn to Cheshire's works, he will see that foul-brood bacilli have been found in the bodies of adult bees, workers and queens, chiefly in the blood. Not only Cheshire, but Prof. Harrison, and several other microscopists, have found them even in the ovaries of the queens.

We may disagree with Cheshire's or anybody else's opinions, but when competent men tell us they have seen something, there is nothing to do but to accept their assertions, at least until positive proof that they are mistaken is given.

On the other hand, it is incontestable that the disease is not transmitted by the adult bees, or at least very seldom, if at all. Cheshire explains it by saying that the disease develops rapidly, and that before any transmission can be made the diseased adult bees go out of the hive to die. It is certain that diseased bees usually leave and die away from the hives. When they do not, they are expelled. All those who have seen bee-paralysis are familiar with these facts.

In connection with this, it must be remembered that as long as the infected bee or other animal lives, the bacilli will not leave its body, except what few may be carried out with its excrements. They multiply by division. Each bacillus grows in length, and, when sufficiently long, breaks in two or more portions, each one forming a new individual. The process continues as long as there is plenty to eat. When the infected animal dies, and there is no more to eat, the bacilli break into spores, which escape by the thousands and infect whatever suitable material with which they come in contact. As the diseased bees die outside, or are carried out immediately, it is easy to see that they cannot be a serious source of infection.

Glucose and Chlorydric Acid.

In a recent issue, Prof. Eaton said that in the United States at least, glucose is no longer made with sulphuric acid, but with chlorydric acid. When the transformation is finished, carbonate of soda is added to neutralize the acid, with the result that chloride of sodium, or, to call it by its popular name, common salt, remains in the glucose.

I am not in a position to confirm or contradict the Professor's statement, but it is certainly a puzzle to me. It seems to me that the salt remaining in the glucose would give it such an abominable taste that it would preclude its use, at least for eating purposes.

Moths and Wax.

In the last edition of his excellent bee-book, Prof. Cook says that the moths do not attack the combs that have neither pollen nor dead bees, as the wax alone cannot furnish them the nitrogenous substances necessary for their development.

I am sorry to contradict, but I have had combs which had neither dead bees nor pollen, and where no brood had been reared, completely eaten up; and the moths therein grew to full size and completed their development. Moths frequently attack and ruin sections where nothing can be had but wax; they do not seem to eat the honey.

The Rietsche Comb Foundation Press.

I have not the last edition of the "A B C of Bee Culture." A correspondent writes me that a German foundation press is mentioned there, but that the editor does not recommend it, because it makes foundation with flat bottoms. There must be a mistake somewhere. None of the presses or rolls made in Europe make flat-bottom foundation. I receive regularly several European bee-papers, but I never saw the flat-bottom mentioned.

Young and Old Bees.

In one of the last numbers of the "late lamented" Western Bee Journal, Mr. Stachelhausen writes the following:

"Mr. Getaz explains his success [in preventing swarming by caging the queen] in the following way: During the four days or more without unsealed brood, the young bees having no brood to feed, take to the field notwithstanding their age or rather youngness. I am sure this idea is not based on facts. It is proven by many experiments that under no circumstances will a worker-bee fly out of the hive before she is 12 days old. If this were not so, and a young bee could become a field-bee, if not enough brood is present, the *swarming fever would never appear in any colony.*"

There are two errors in the above. The first is the assertion that a bee under 12 days of age will not fly out. That may have been so in some cases, but experiments have been made where bees only 7, 5, and in one case 4 days old, have brought in nectar and pollen. On the other hand, bees several weeks old, and even several months old, when wintered over, do the work usually allotted to the young bees when none are present.

It is therefore certain that while young bees do the inside work in preference, and the older ones the field-work, there is no absolute date or limit, all depending upon the circumstances.

The second error is the assertion that if so, the swarming fever would not appear, or, to put it in another shape, queen-cells would not be constructed. Because young bees can go to the field, there is absolutely no reason why this would prevent them from building queen-cells before taking to the field. If they *don't* build any when there is no unsealed brood, it is because they *can't*, and not because they *won't*.

Flight-Hole Above Brood-Nest.

Some years ago a Mr. Richard, a preacher at Amsterdam, took a notion to have a hive of bees. Not having any other place for them he put them in the garret. The shape of the roof was such that it became necessary to have the entrance at the top of the hive instead of the bottom. The following year the hive was taken to the country and another bought besides. The result was that the hive with the entrance at the top of the brood-nest gave three times as much surplus honey as the other. The same results were obtained the following year.

It is needless to say that a large number of apiarists began to experiment on the question. The results as far as the reports I have seen stated, are an increase from 2 to 5 times and in one case 6 times the amount of surplus honey that would be obtained with the entrance at the usual place. Only one case is on record where no increase was obtained in the supers, but considerably more than usual was stored in the brood-chamber.

The following points were ascertained:

1st. The brood-nest remains where it is; the queen does not go up in the supers.

2d. The bees manage to keep the hive, including the bottom-board, as clean as when the entrance is below.

3d. It is absolutely necessary that when the upper entrance is open, the other should be closed, and no crack of appreciable size should be permitted below the upper entrance.

These three points are correct. I have tried the system and found them to be so.

I hesitated a long time before trying the process myself. I am working for comb honey, and the European bee-keepers work for extracted honey. I was under the impression that an opening above would interfere with the building of comb in the sections. I finally tried a few hives, but instead of having the entrance opening directly outside, I had a kind of passage-way leading down to the bottom-board just in front of the other entrance. This did not work very well. The ventilation was too imperfect. At least I thought so, but I have come to the conclusion that I may have been mistaken, and that the process deserves further trial.

By that time I reflected that while Europeans work for extracted honey, they hardly ever give a full set of built combs, usually only a few, and the rest is with foundation, and usually only starters at that. So, after all, there is not so much difference as one would think at first. So I decided to put the entrances above, opening directly outside. By that time the only flow we had last year, and a very poor one at that, came to an end, and of course that ended the experiment so far as the increase of surplus honey is concerned.

I suppose that most, if not all, of the readers of this paper know that when there is no flow, more or less bees will (at least during the warm days) go into the supers, loaf, gnaw the foundation, chink propolis anywhere and everywhere, and do more or less mischief.

I soon discovered that while there was the usual number of bees in the supers of the hives with the entrances below, there were none, or practically none, in those with the entrances above. An inspection disclosed the fact that if there were no bees in the supers, there was, on the other hand, a big, compact cluster right at the entrance; that is, inside of it. That was quite a puzzle to me.

The warm air contained in the hive has a strong tendency to go upward. To bring it down to the bottom through the combs and a mass of bees requires a large number of fanning bees and a large entrance. With the entrance above, the warm air will go out of itself, perhaps much faster than needed for the best results.

Without thinking any further, I had made the upper entrances as big, or nearly as big, as I usually make them when at the bottom of the hives. I then realized, that for the reason just given, they were entirely too large, and that those big bunches of bees were there to prevent a too free escape of the warm air needed for the brood. What is the exact size for the best results, I do not know yet.

Knoxville, Tenn.

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Cellar-Wintering — Hershiser Bottom-Board

BY OREL L. HERSHISER.

Mr. Morley Pettit, in "Canadian Beedom" (page 904—1905), makes some criticisms of the Hershiser Combined Hive Stand and Bottom-Board, shown at the late Ontario Convention at Toronto, which should not stand unchallenged.

Is it "too much machinery to be carried under the hive"? It is a device so simple that a one-armed man or a child can make every adjustment without the least difficulty. Its construction is such that the simplicity and ease of operating it cannot in the least be affected by moisture or swelling, and it is absolutely impossible for the bees to propolize its edges or hinder its easy working. It is very strong, although the device for the 10-frame dovetail hive weighs but 8 pounds.

It enables the apiarist to have his bees practically prepared at all times for removal to or from out-apiaries, for confinement within the hive while in the cellar, or for shipment; the simple adjustment to confine the bees or admit them to flight being made at the rate of 100 colonies in less than one-half hour. Added ventilation can be given in a moment, if needed, during a heavy honey-flow, or in hiving a large swarm; and when combs are melting down, or likely to melt down, because of excessive heat, relief can be quickly afforded.

Colonies being robbed can be instantly and perfectly protected. In fact, the device is complete in itself for all purposes to which a bottom-board or a ventilating scheme below the hive-body may be put. There are no extra parts to be used for special purposes, such as blocks and wedges for giving ventilation; and no bottom-boards to be left on the summer stand or stowed away, as is necessary with most hives and practiced by nearly all apiarists who winter bees in the cellar; all such objects being perfectly comprehended in this one device. It presents to me not a single disadvantage, but its advantages are manifold. Its use to me in cellar-wintering alone, to say nothing of its convenience in moving bees, has been highly profitable.

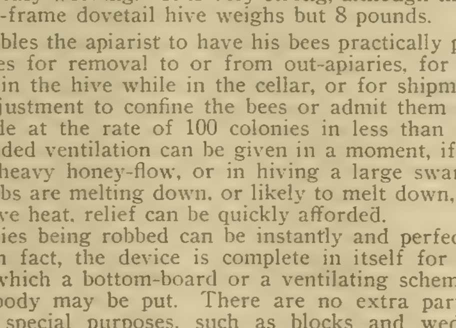

Fig. 1.—Bottom-Board—Sectional View.

Further and more careful observation and investigation, I believe, will convince my critic that he is all wrong in declaring that "he finds it is not practical to confine bees to the hive while in the cellar." He is doubtful as to whether "weak colonies and nuclei *may* be confined without serious loss." I have no doubts on these points, having proven the practicability of such wintering, in my own case, *beyond any doubt*. And, further, the confining of strong colonies is as practical as it is with weak colonies or nuclei, as proven by my experience.

I desire to take an exception to the statement that "when strong colonies are so confined there are sure to be some bees that fly to the screen, try to get out, and make noise enough to rouse the whole cellar.' Mr. Pettit's bees may behave in this unseemly fashion, i. e., all want to go out because one or a few individual bees have asked that privilege. My bees behave properly and attend strictly to the business of wintering quietly, and, if once in a while a stray bee leaves the cluster and buzzes a bit, very likely for some good and sufficient reason, they do not all fall to and do the same. They are so accustomed to humming and buzzing that such sounds have ceased to irritate them. To be sure, they hum and buzz if they get too warm, and would undoubtedly go in search of cool air if allowed their liberty, but they become quiet and contented as soon as such need is supplied.

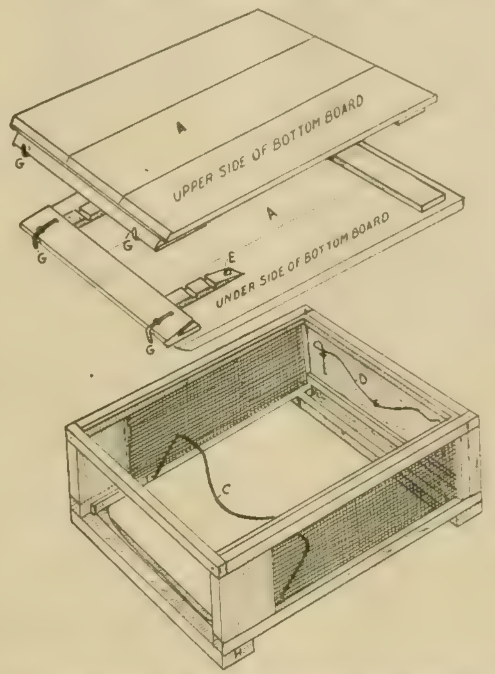

Fig. 2.—Hershiser Hive-Stand—Bottom-Board Detached—Patent Applied For.

If the temperature of the cellar becomes too warm, the more sensitive colonies will be the first to show it by their activity; and in case of such unsatisfactory conditions there is no doubt that the colonies first aroused would have a tendency to hasten the awakening of those in a deeper state of repose. In such an emergency, if the bees are properly confined to their hives, it is a positive advantage, as otherwise many strong and vigorous bees would perish on the cellar floor, or at the windows, if there was a ray of light. But where temperature and ventilation are satisfactory the mere buzzing of a few restless bees, now and then, will not "rouse the whole cellar" or cause unusual activity.

Disturbances occasioned by insufficient or impure air or high temperature, are not likely to occur in the cellar or repository specially constructed or fitted for the purpose of wintering bees; but, even in these, disastrous failure has sometimes been the result. Such failures are probably more frequent than most of us imagine, for the reason that people take little pride in recounting mistakes or disasters, but occasionally one who has learned wisdom with passing years becomes reminiscent, as did Harry Lathrop, of Wisconsin, where he recalls a case in his own experience of 35 good, strong colonies placed in a specially built repository about Dec. 1. About Jan. 15 following, the door was opened, and in one of the upper front corners of the room was a bunch of bees about the size of a bushel basket, and upon the floor was about an inch in depth of dead bees. The live bees were divided as well as possible and their wintering was finished in clamps outside. Fifteen weak colonies in the spring was the result. Want of air was ascribed as the cause of the death of the bees. Possibly such was the case, but I am strongly of the opinion that, having deserted their hives, food was not within their reach, and starvation was the immediate cause of the death of such an unusual number of bees. If his visit to the bees had been delayed 2 or 3 days longer all would have been dead. If each colony had been confined within the limits of its own hive, with the proper amount of room beneath the frames, well ventilated, there seems to me no reason why each colony should not have survived, just as did the large bunch of bees in one of the upper front corners of the room.

The bottom-board under mention was made especially to meet my personal requirements. All my apiaries are away from home. There is a good cellar under my dwelling-house, but the constant use to which it is put during the winter months precludes keeping it dark, and it is impracticable to keep it at an even temperature. No difficulty in keeping it from the freezing point, but in very cold weather a hot fire must be kept in the furnace to heat the house. When moderate weather comes, especially if it comes suddenly, there is too much heat in the cellar for orthodox wintering. Barring the uneven temperature, the cellar is about ideal. The necessity of bringing the bees from out-apiaries at the very time they must be placed in the cellar, and the peculiar conditions of the latter, were the factors which called for correspondingly peculiar construction to confine the bees while in the cellar and in moving them. After the disastrous winter of 1903-4, in which I lost heavily, having wintered almost entirely outdoors, I determined not to risk all of them in that way again. Hence the evolution of a device to meet my requirements.

On Dec. 4, 1905, I commenced at 9:30 o'clock in the forenoon and by 12 o'clock I had closed the hives (by means of my bottom-boards) of 88 colonies of bees, and hauled them in two sleighloads a distance of ¾ miles, carrying them a distance of 75 feet to the cellar door. By 3 o'clock in the afternoon I had them safely placed in the cellar, all with the assistance of one man all the time and a boy teamster and his team in the forenoon. The weather was about at the freezing point, and a few live bees dropped on the floor-boards. After the bees were placed in the cellar a brisk fire in the furnace soon raised the temperature to a point which enabled every live bee to regain the cluster in its hive.

Last winter I made my first experiment in wintering bees, in considerable numbers, confined in their hives, although I had tried it in a small way the winter previous. One hundred and thirty-five colonies were placed in the cellar, confined as described. Four-fifths or more of the colonies were nuclei, occupying from 3 to 5 Langstroth frames. They could not have been wintered outdoors. Many of them were deficient in stores, probably ¼ of them having less than 16 pounds each. They had been fed up late in the season on sugar syrup. The average loss in weight per colony, in wintering, was a little in excess of 7 pounds for 4 months' confinement. My winter loss from this lot was 2 colonies which died of starvation, and a few that swarmed out and joined other colonies, which was due to the folly of putting bees out when it is so warm as it was here on March 28, the thermometer registering 78 degrees. The strength of the weak as compared with the strong colonies in the spring was as nearly in proportion to their strength the fall previous as could be estimated, the full colonies being correspondingly stronger than the nuclei. This lot of weak colonies wintered at least 15 percent. better than the strong colonies left outdoors, and consumed not more than half as much stores per colony. All colonies wintered outside were in first-class condition in the fall, with 25 pounds and upwards of stores per colony, and well packed and protected.

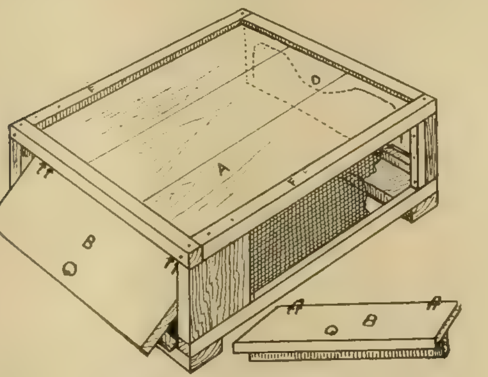

Fig. 3.—Hershiser's Bottom-Board and Hive as Prepared for Summer.

While absent at the late Chicago convention the furnace became defective, and it was impossible to control the heat until repairs were made. The excessive heat, resulting from too strong a draft, caused the bees to roar and clamor for liberty as though it were summer, but all to no purpose; each colony was safely confined within its own hive. It can easily be guessed what the consequences would have been if the bees had been able to escape from their hives. My loss would have been practically 146 colonies of bees—the number in the cellar. After repairs had been made on the furnace and better conditions obtained, the bees quieted down to their normal condition, apparently none the worse for their unwonted activity, except 3 colonies which persisted in "keeping up the music." A few bees in these, with distended abdomens, are running about the screen sides of the bottom-board, but the number diminishes daily, and I anticipate that when they have expired, as they surely will in a few days, these colonies will also be in a normal condition, as they really are now, except the few restless bees. The colonies both above and below and all around the restless ones are perfectly normal, the quiet yellow cluster of bees hanging between and below the frames, telling the story of comfort and perfect wintering.

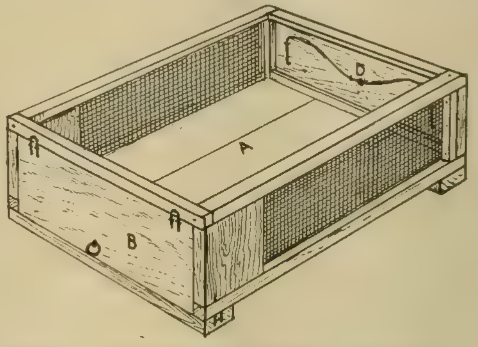

Fig. 4.—Hive-Stand as Adapted for Cellar Use.

The above observations, in my own experience, prove to me conclusively that if bees of one or more colonies should buzz about the wire-screen sides of the bottom-board, in an effort to escape, the noise will not materially disturb other colonies, much less will it "rouse the whole cellar." That when bees are properly confined to their hives, having all needed ventilation, if, from a rise in the temperature all the colonies become aroused, they will return to their normal winter condition, when the proper temperature is restored, without serious consequences; whereas, if not so confined, the loss of bees by becoming disengaged from the hive and lost on the cellar floor or otherwise, would be enormous. To me the carrying of so trifling an amount of machinery under the hive has been advantageous and profitable. To be without it would, in my case, be extravagance. Buffalo, N. Y.

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A Successful Home-Made Hive

BY ALLEN LATHAM.

Too often in making his own hives the bee-keeper tries to pattern them after those sold by the manufacturers, and consequently finds that it does not pay to buy good lumber, saw it by hand, and make a hive costing little less than a better one sold by the manufacturers. Nor does it pay to make that style of hive out of cheap lumber—a dressmaker might as well construct a dress from home-spun on a pattern designed for silk goods. Yet everyone knows that a good, serviceable dress can be made from home-spun, and one which is possibly even better for ordinary wear than the silk one. It is my purpose to tell the readers of the American Bee Journal how a bee-hive can be formed from the cheapest kind of lumber, and yet be a better hive for actual use than the factory-made hive.

This hive which I am about to describe is not handsome to look at, for its beauty lies deep and is the more appreciated the longer the hive is used. It is a hive excellent for winter as well as for summer.

To construct this hive a good roofing paper is necessary. Having used with great success that brand known as "Paroid" —a paper which is advertised in the American Bee Journal— I shall make occasional mention of that name and also shall speak of the other paper made by the same firm, a tough red paper called "Neponset." This latter paper I use in the interior of the hive, the "Paroid" being used externally.

A roll of "Paroid," one of "Neponset," plenty of assorted nails, some good tacks, and a large quantity of grocery-boxes, shoe-cases, and hat-cases are the materials needed to construct a score or more of excellent hives—the tools required being a cross-cut saw (not over 20 inches long), a small rip-saw, a small plane, a try-square, a light hammer, a strong screw-driver or old chisel, a jack-knife, and a yard-stick. Let the tools be good ones, for it pays to use good tools.

If one is fortunate enough to have a shop with work-bench, so much the better; but good work can be done with a large dry-goods box for a bench and a smaller box to do one's sawing on.

The shoe-cases, etc., are taken apart with screw-driver and hammer (this hammer should be of the best grade with a claw which will pull a headless nail). The grocery-boxes are not all taken apart, as some are to serve as the foundation structure for hive-bodies and supers.

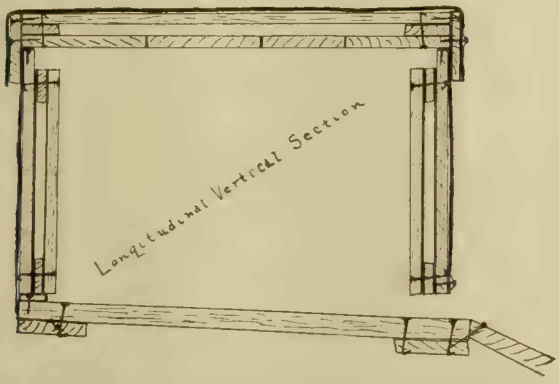
Careful selection of boxes, and thorough preparation go far toward assuring success in this hive-making undertaking, for one may otherwise become disgusted at the beginning and give up because of numerous though trifling difficulties. It is tiresome—that is, slow—work constructing the first hive; but one soon gets familiar with the different steps, and can turn out from 3 to 8 hives per day, according to his skill and energy.

The numerous cereals sold nowadays furnish such a variety of boxes that one ought to find just what he needs at the various grocery stores. After once deciding on a box he should persuade the different grocers to reserve that particular box for him. In this way one can get together a hundred or more boxes all of a size and shape.

THE MODUS OPERANDI.

Select a box which is 1¾ inches longer and 1¾ wider than the inside measure of your hive-body. If just the right size box cannot be had, select that which will require the least cutting down.

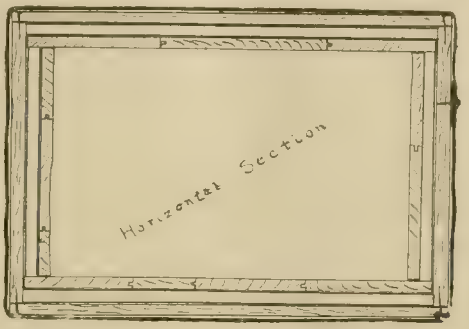
Remove the top and bottom of this box and cut down if necessary. It is not much of a task to cut a box down. In case it is too long the entire end is cut off and the end-piece again nailed in place, after, of course, removing the sawed-off bits of boards and the nails. If the box is too wide, one side is knocked off and the two end-pieces are sawed to the right length and the side again nailed in place. If the box is too deep, the rip-saw quickly takes off the right amount, care being first taken that any obstructing nails are previously removed. A little planing completes the task. A trifle over 5 minutes will serve to cut down a box to the right size. You will then have a hive-body of thinner material and longer and wider than the regular hive-body. Cut out pieces of "Neponset" or other good sheathing paper to fit the inside walls of this body. Then get out four strips of half-inch stuff not less than one inch wide, of a length equal to the inside length of the hive-body. Nail these strips over the paper on the side-walls flush with the top and bottom edges. Then lay two more pieces of the "Neponset" over these strips. Previous to this you may have prepared a large number of pieces from your box-board materials of a length equalling the depth of the hive-body. Cover the second piece of paper with a sheathing of these boards, nailing near the ends so that the nails go through the strips between the papers, and with nails that will reach through to be *clinched*. This clinching is absolutely necessary.



You will then have a body with side-walls made up of two thicknesses of wood, two of paper, and one dead-air space.

The ends are then to be finished like the sides, except that the upper strip is lowered away from the edge and the inner wall is made shorter to allow a rabbet on which to support the frames. If cross-wise frames are used (a much better arrangement, by the way), the side-walls must be thus prepared instead of the ends.

The varying thicknesses of the box-boards used will bring about a variation in the inside measurements of the hive-body when completed. This difficulty is easily overcome by laying strips of the roofing paper on the board strips which border the air-spaces, or by selecting different thicknesses when these board strips are got out. If the original box is only a fraction of an inch out of the way in its measurements it is not necessary to cut it down, since the difficulty can be remedied in the manner just suggested.



At this stage of construction you will have a hive-body of great strength and exceedingly warm and protecting in character, but it itself will require protection from the elements.

You will now measure the perimeter of the hive-body and cut from the "Paroid" roll a strip which will go around this body and lap 2 inches, and with a width about 1½ inches greater than the depth of the body. This strip is put on with the lap-seam well cemented, and with the upper edge projecting ½ inch. This projecting edge is turned in over the edge of the hive-body and tacked vertically. This turning in is to allow the supers and covers to telescope on without tearing down the edge of the paper.

The lower edge will also project and will thus overlap the joint between the hive-body and the bottom-board, except that it is to be cut away above the entrance. Nails and tins come with the rolls of paper, also a can of cement, and a row of tins should be closely nailed along the edge over the entrance. Two or three tins nailed along each of the remaining bottom edges, and along the seam, will be all the fastening the paper will require. It will naturally bulge slightly away from the walls and thus furnish another air-space.

You will observe that the hive-body has been made without entrance, for the bottom-board will supply this. Make the bottom-board from the heavier stock which is found in the ends of the shoe-cases. Make it longer if you wish than the hive-body, but of just the width. Along the edges above nail two wedge-shaped pieces on the sides and a strip a bee-space thick along the back. The side-pieces should be an inch thick in front and at the back the thickness of the back-piece. When the hive is placed on this bottom there will be an entrance the width of the hive and one inch deep. All tilting forward of the hive will be done away with, since the bottom itself is tilted or slanting forward. The absurd custom of tilting hives forward should not be tolerated in any upright bee-yard.

For a cover one can use the cheapest and worst pieces in the whole lumber-pile. He will make the cover of two thicknesses and preferably with an air-space, letting one layer of boards be parallel with the sides, another parallel with the ends. This cover should be made half an inch larger each way than the body, and a strip should be nailed all around and projecting so as to telescope over the hive-body. Then a piece of "Paroid" is cut about 6 inches larger each way than the cover, and this is laid over the cover, and the sides turned down. All nailing is done on the sides, leaving the top a perfect roof. Such a cover is proof against wind, rain, and sun.

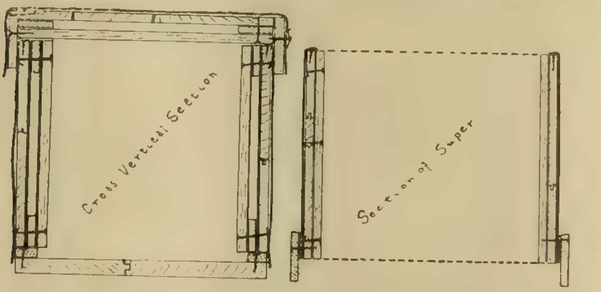
For a super it is best to follow the plan of the hive-body except as to air-space. Leaving out the air-space will allow more room for the section-case. This plan admits of the use of light section-cases protected by an outer super, a method entirely up-to-date. The frequent moving of the super would soon destroy the paper projecting beyond the lower edge, and the "Paroid" strip is therefore cut narrower. Strips of wood are securely nailed about the lower edge of the super so that it will telescope after the manner of the cover. Strips of paper are laid under these wooden strips so that supers of the same size can be tiered up without too tight a fit.

Cutting the Paper.

Unless one is used to cutting roofing or sheathing paper he will make a poor pass at it. I find the following plan excellent:

Select several straight-edged wooden strips, two of which are over 3 feet long. Lay these two parallel and about 1/8 of an inch apart, and fasten them together securely by means of cleats put across the under side. Then from near either end extend a strip at right angles and nail firmly, these strips being a trifle over 3 feet apart. Measure from the space between the two first-mentioned strips and on the other two cut notches according to the widths which you wish to cut the paper. Unroll the paper and slip the contrivance under the paper so that it will lie between the two last-mentioned strips, and bring the end to the desired notch. Then flattening down the paper, run the small blade of a knife along the narrow space between the two first-mentioned strips. It works to a charm.

In the case of "Paroid" the knife is apt to "gum" up If the cutting space is made with bevelled edges so that the knife-blade can be leaned to one side, much easier cutting will result. This bevel cut seems to allow the cut paper to lift off the knife so that the knife runs with much greater ease; otherwise the knife will drag and make a ragged edge. Never attempt to cut these papers by laying them on a smooth surface and running a knife-point along a straight edge. Always cut with full blade while the paper overhangs the straight edge.



It has not been easy to explain with sufficient clearness the full procedure in a single article, and I have supplied a few diagrams to make the whole matter perfectly clear.

One can, if he has the use of a circular saw, make frames and full inside furniture for this hive, but without proper machinery he will do better to buy frames and section-cases in the flat ready to nail.

I am fully persuaded that any one who will give this hive a trial will declare it highly satisfactory; and, even though the hive as a whole be not adopted, every one would do well to adopt the cover herein described. A cover protected with either "Paroid" or "Neponset" is far and away ahead of an all-wood cover.

With these hives one needs to do little to prepare his colonies for winter, for all that is necessary is to place an empty super on the hive and in this a bag of sawdust or other absorbent and leave the entrance wholly open, only shutting out mice by means of a wire-netting 3 meshes to the inch. An entrance thus large, one inch by the width of the hive, is perfectly safe, and is much better than a small one to insure good wintering. Finally, the dark paper, "Paroid," gets warm every sunny day in winter, and thus keeps the inside of the hive dry and sweet—a necessary factor in successful wintering of bees. The large entrance—there being no upward ventilation—gives ample opportunity for escape of foul air and moisture.

Last but not least, the hive which I have described costs but 50 cents.

Norwich, Conn.

Maple Sugar and the Sugar Bush, by Prof. A. J. Cook; 44 pages; price, postpaid, 30 cents. This is by the same author as "The Bee-Keepers' Guide," and is most valuable to all who are interested in the product of our sugar-maples. No one who makes maple sugar or syrup should be without it. Order from the office of the American Bee Journal.

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See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Convention Proceedings

Report of the Ontario Convention

(Continued from page 50.)

SYSTEMATIC ADVERTISING AND MARKETING OF HONEY

The marketing of honey, like the marketing of any other kind of produce, is a simple matter once you have a certain line of customers, and the reputation for a good article; but for the beginner, or the producer who is a long distance from the principal markets, the question is often more troublesome than the production of the article. Of course, it is easy to sell honey if you put the price low enough, or take about any price that is offered, but selling a No. 1 article of honey in this way is very unsatisfactory, because it is unprofitable, and the producer should receive value for his time and labor.

I may not be able to add very much to what is already known on this subject, but I want to emphasize a few points on "creating a market for honey" as they occur to me, and perhaps this may bring out a little discussion.

To advertise honey one cannot go about it in the same way as to advertise any special food product, for the simple reason that honey or nectar is a name for a sweet gathered by bees from the nectaries of flowers. Of course, the bee-keeper might advertise clover, linden, buckwheat or other varieties of honey—these are general terms that any producer may use—but one cannot get up a fancy name for honey like the manufacturers of canned goods or breakfast foods.

The best form of advertisement I have found is a pleased customer, and the best way to get and keep the customer is to supply a No. 1 article of honey at a fair price, no matter whether at wholesale or retail.

One might properly ask, How can we secure the customers? One plan is to canvass the surrounding country, or, if you have not time for this, an assistant might be engaged who would sell on commission; but go yourself, if possible.

It is wonderful how many farmers will buy honey when it is brought to their notice.

Talk it up. A buyer likes to talk to a producer who can speak of the goods he has to sell as if he understood them.

Many bee-keepers make the mistake of sending their goods to the large cities that are perhaps already overstocked, when with a little inquiry there is already a market in the surrounding villages and country.

Another plan is to make an exhibit at the township or county fair. It may be argued that the premiums offered do not make it worth while, but here is an opportunity to become interested in the local agricultural society, attend their meetings, and give them pointers when revising the prize list for honey. I have found that the directors are generally willing to encourage an exhibitor who will put up an attractive exhibit of honey. The ordinary exhibit of honey at the local fairs only calls for 5 to 10 pounds, and attracts no more attention than a can of fruit or pickles. Just try what an effect it will have to put up 100 or 200 pounds of comb and extracted honey, in clean white cases, and clear glass jars, with a sign above it stating it was from the apiary of the local apiarist. Many who have never thought of honey will be attracted by its beautiful appearance, and remark that they would like some of it.

Demonstrate your honey by giving samples to prospective buyers, and have a supply to draw from, put up in different sizes of cases, jars, and pails, neatly labeled, giving your name and address. Small packages may be disposed of in this way that will, if the honey is good, bring inquiries for larger quantities.

If possible take a long and observatory hive of bees; it is a great attraction, and never fails to draw the attention of the crowd to your exhibit of honey.

Call on the local dealers at regular intervals with a supply of honey in packages of various sizes to suit their class of trade. Do not press too large a quantity on them at one time. No up-to-date grocer likes to see a quantity of fly-spotted packages on the shelves, but would rather buy in small quantities, and have them clean and fresh. If you have more than enough honey to supply the local demand, do not make the mistake of putting it up in what I have heard a wholesale grocer term "homespun packages." See that the sections are free from propolis, properly graded and cased, and the extracted honey put up in well-made cans. Nothing disgusts the commission man or dealer worse than to have a consignment of honey shipped to him with the sections unclean and ungraded, with perhaps both cases and cans leaking badly, to which dust will adhere and spoil its appearance, making it so much more difficult to obtain the best prices.

By the accounts we read in the United States bee-papers, many of the markets there for honey are very dull, with slow sales and low prices. This is a discouraging state of affairs when nearly every other article of food has a good demand at higher prices, and this, too, at a time when the demand for luxuries was never so great. It is not that the people do not like or want honey, it is mainly owing to many silly stories published in the newspapers and magazines; they have, to some extent, lost confidence in honey as an article of food. Lax enforcement of the pure food laws is another cause for its decreased consumption. Happily, in Canada, we have comparatively little adulteration, and, although there is still room for improvement, the demand and use of honey have enormously increased during the past few years, and will continue to increase as its value becomes better known.

R. H. Smith.

G. A. Deadman—The market is limited in the country, but farmers buy in large quantities when they do buy. The best way to work up a retail market is to send out samples. Druggists sell patent medicines in large quantities that way. Distribute honey in small dishes and give a circular with each dish. They will eat the honey and read the circular. Then call next day for the dish and the order. Be sure to ask the retail price, not the wholesale, so the merchant will have a chance too. Sampling a town is in the end cheaper and more satisfactory than advertising in the papers. Educate people as to the different qualities of honey.

J. W. Sparling thought honey never could become a staple food like meat, because it is a sweet; and people tire of it.

R. H. Smith—It is very important to see that the honey sold is always of the best quality, well ripened, etc. Bee-keepers should watch the groceries in their home towns all the time for adulterated honey. Send suspected samples and have them analyzed. The dealers are always glad to be informed when adulterated honey has been sold them, and by this means bee-keepers can keep it out of the market. Then we should teach people that honey is a concentrated food, and should not be eaten in large quantities.

Mr. Pickett—Produce a good article, put your name on it, and have an honest man to handle it.

Experiments on Honey Granulation and Flavors, and Bleaching Wax.

Prof. F. T. Shutt, of the Central Experimental Farm, Ottawa, described experiments on the granulation of honey and in clarifying wax. He had raised samples of honey to temperatures of 122 degrees, F., and 158 degrees, F., and found that in either case they had remained liquid since Sept 1st, when the heating was done; while honey which had not been so heated was granulated quite hard. He found that keeping in light or darkness, or cold storage, seemed to have no effect on the granulation of honey. Also that agitation, or the addition of crystallization points did not seem to affect the granulation. This in spite of much evidence among practical bee-keepers to the contrary. The honey kept in the light, whether granulated or liquid, was quite perceptibly bleached in color, and seemed to have lost in flavor.

With reference to flavor, Prof. Shutt had learned that heating honey to a high temperature certainly injures the flavor. He explained this by the fact that neither the levulose nor the glucose give honey its flavor, but certain minute quantities of undetermined volatile oils which can and do at a high temperature escape.

With reference to bleaching wax, Prof. Shutt had made exhaustive experiments, and found that 1 percent. nitric acid gave best results. To bleach without chemicals, melt the wax in warm water, pour off the water, and repeat the operation several times. Then shred the wax and expose to a damp atmosphere and sunlight. Sulphuric acid should not be used more than 5 percent. strong. Hydrogen peroxide gives wax a good color. The texture can be brought back to wax by heating and cooling slowly. It should never boil.

Prof. Shutt gave two sources of honey-dew: 1. It exudes in drops from the leaves of trees in a moist atmosphere. 2. Aphides extract sweet from leaves, and it exudes from their bodies.

Mr. Holtermann—Granulation may be hastened by agitation, if we stir the honey after it begins to granulate slightly.

J. B. Hall—Honey taken to the exhibition and back granulates more quickly than that which was left at home.

Production and Care of Comb Honey.

Mr. R. Lowey read a paper on "Production and Care of Comb Honey."

In opening the discussion, Morley Pettit said he found it a great advantage to hive on frames with foundation starters instead of drawn combs, for comb honey, for with the latter the colony was sure to swarm again in a short time. He found the principal danger from moths was caused by the presence of pollen in the sections. He had had experience in producing and handling comb honey covering 15 years, and had never fumigated nor had any complaint from buyers on account of moths. This was due to care in excluding pollen from the sections. Any odd cells of exposed pollen were always daubed with fresh honey on the end of a match.

W. Z. Hutchinson had experimented by hiving first a swarm on drawn combs, another on full sheets of foundation, and another on starters. The result was always in favor of hiving on starters.

O. L. Hershiser always puts the new super on top of the one already on, and when the first is filled he takes it off.

Mr. Hutchinson—When the bees in their building comb in the brood-chamber get ahead of the queen in her laying, they immediately start to build drone-comb. So if young, energetic queens are used, 80 percent. of the comb built from starters will be worker-comb.

Mr. Holtermann—Making the bees uncomfortable by contracting the brood-chamber induces the building of drone-comb.

Best Smoker and Fuel.

Ques.—What is the best smoker and fuel?

W. J. Brown—The Corneil smoker.

Mr. Holtermann—The R. H. Smith smoker gives best satisfaction. Have it made with extra-length barrel.

Mr. Lowey—The best fuel is thin bark from second-growth pine, broken up. It makes very little ash.

Mr. Pettit—Cedar-bark from the largest cedar-logs you can find. The bark is very thick and full of resin.

Mr. Holtermann—Dampen the bark slightly. It will hold fire better, and not blaze up and burn out so quickly.

Second Day—Thursday Morning.

On the subject, "Are Amendments Needed to the Foul Brood Act?" Mr. F. J. Miller read the following:

AMENDMENTS TO THE FOUL BROOD ACT.

I fully hope that each one present will not expect much convincing proof from this short paper, and this will save disappointment.

The subject, "Amendments to the Foul Brood Act," is one that has received considerable discussion at different times, and, generally speaking, I believe the meaning of the Act not to be far astray.

As to one inspector being able to carry out the work to the best satisfaction of this Association, I am not so certain. It appears to me there should be three good men under the direction of this Association, each responsible for a given district, from which he would not be too far distant, so that the traveling expenses might be reduced as much as possible; also this would enable more work to be done during the short period of our honey-flows. These are matters in which we are all interested, but each having somewhat different views on the subject.

Some have advocated County inspection. This I believe to be jumping to the extreme, and not to be in the best interests of bee-keepers—in fact, to be impracticable. There are few counties having well-organized associations that could carry on the work; others would suffer. Again, this Association would find it very difficult—I may say, impossible—to control the work through so many inspectors. The funds at their disposal would not warrant opening the way for so many leakages as would occur.

Therefore, I am of the opinion that three inspectors, each responsible direct to this Association for the work to be accomplished, would give better results than either the present system, or the one of the County inspection, bringing greater harmony into the work of the Association.

F. J. Miller.

Prof. Harrison—These are the two possible extremes. The one which we now have of only one inspector for the Province—a system entirely inadequate to the requirements of the case; and the other of County inspectors, which is at present altogether too much to expect. The counties have not organizations, nor competent men, nor sufficient funds, nor would the Government grant the money at present.

One thing Prof. Harrison emphasized: That is, when an association is shown to be using to the best advantage the funds it has, the Government is more than willing to increase its grant. There is an impression in the department that this Association is not doing all it should do for the country. So we must go slowly in our requests until we are doing better work. Personally, he thought a well-organized county could help defray the expenses and have its own inspectors, in time; but for the present the three Provincial inspectors would be better. This was a step in the right direction, as the work would be done more reasonably than at present.

J. D. Evans—In order to get rid of the disease every hive in the Province should be inspected. At present it costs seven or eight dollars per apiary. With local inspectors much of the traveling expenses could be saved. It is a serious matter, as judging by the inspector's annual report there is no decrease in the number of infected apiaries.

Prof. Harrison proposed, and after long discussion the convention adopted, amendments to the Foul Brood Act, by which the Province should be divided into three districts, with a competent inspector of apiaries for each.

Sec. W. Couse, and others, thought each of the twelve districts should organize, and each have an inspector, and that twelve inspectors could inspect much more thoroughly, and would save expense by working near home, and doing the work in fruit-bloom, when colonies of bees are not populous and are easily inspected. However, as Prof. Harrison pointed out, we could not hope to jump from the extreme of having one inspector, to the other extreme of having twelve inspectors. That might come later.

EXPERIMENTS AT CENTRAL EXPERIMENT FARM, OTTAWA.

Mr. Sibbald's Plan of Preventing Swarming.

For the test 6 colonies of bees in 8-frame Langstroth hives were selected, weighing on an average 48½ pounds each. All were examined for swarming. June 10 there was no sign of swarming. At that date each colony had abundance of brood and a considerable amount of new honey. June 15 they were again examined; 3 colonies were found preparing to swarm. Those 3 colonies were set off their old stands a little to one side, and new hives were placed on the old stands thus left vacant. The new hives each contained 2 empty combs and 5 empty frames with 2-inch starters of foundation.

The next operation, one frame of brood with queen-cells on it, is taken from the old colony that had been set to one side (making sure that we did not get the queen), and placed with the adhering bees in the hive between the 2 empty combs. The extracting supers that had previously been removed from the old colony is placed, with all the bees it contains, on the new hive.

June 19 a second examination was made. One more colony was preparing to swarm; this one was treated the same as the former. The old colonies that had been manipulated were examined, and all queen-cells were found to be destroyed. The old colonies were then placed on their original stands, removing the one frame of brood from the new hive, destroying all queen-cells on it, and placing it in the old colony. Any bees that remained on the starters were transferred to the old colony. The extracting super was then taken off, and the new hive was again placed on the old colony along with the bees it contained, making one very strong colony.

The fourth colony that was found preparing to swarm was treated after 4 days the same as the 3 former colonies. The 2 other colonies did not swarm during the season. At the close of the season we had 6 very strong colonies, with plenty of stores for winter, and 468 pounds of extracted honey.

Forced or Shaken Swarms—Mr. Pettit's Plan.

For this test 6 colonies of bees in 8-frame Langstroth hives were selected, weighing 49¾ pounds each. Examined on June 10, they showed no sign of swarming; there was abundance of brood and considerable new honey. June 15 a second examination was made; 4 colonies in this row were preparing to swarm.

Hives previously prepared for swarms each contained in the order named—2 dummies, one starter, one worker, 2 starters and 2 dummies—8 in all. One of these brought and set on a stand directly behind the hive to be treated. The operator removes the 2 dummies from the right or further side of the new hive, and shoves over the remaining contents so as to leave the empty space next to the hive. The combs nearest to the operator are lifted from the brood-chamber, and shaken almost free of bees, and placed in the new hive next the left wall. The next comb has a double space for shaking off in the old hive. It takes its place beside the first, and the return motion of the hand carries the dummy from the new hive to the old one.

Comb No. 3 is shaken, carried to the new hive, and dummy No. 2 is brought back. The fourth comb exchanges with the first starter, and so on. When the 8th comb has been shaken in its own hive and transferred to the new, the old hive is filled out with the remaining dummies. We then put supers on again, close the hive, and the bees have been "swarmed." The 2 remaining colonies did not swarm during the season.

On the 7th day after shaking, the 4 old colonies were removed to another location. Most of the bees that were flying went with the "shook" swarm, leaving the old colony so weak that it did not have any inclination to swarm, and only stored sufficient honey to carry them over winter.

At the close of the season, from this test we had 10 colonies and 432 pounds of extracted honey.

John Fixter.

W. A. Chrysler said he had tried Mr. Sibbald's plan, and found it all right, if no increase is desired. He considered Canada should have a text-book of bee-keeping, that the results of Mr. Fixter's experiments, along with the other useful information on bees, should be collected and bound.

Morley Pettit considered he had outgrown the system described by Mr. Fixter. He would not use "shook" swarming for extracted honey at all, but by a system of prevention rather than cure hold the colonies together so they would not swarm but devote their energies to the production of honey.

R. H. Smith, from 167 colonies, spring count, took 25,000 sections of honey, and increased to 185 colonies.

Ed Dickenson—Put empty combs, one comb with queen-cell and brood, in the new hive on the old stand, and set the old hive to one side. Then in a few days set the old hive to the other side, and all the cells will be destroyed. Then set the old hive back on the old stand and raise the honey stored in the new hive to the super. This gives no increase, and swarming is broken up.

WHAT CAN BE DONE TO MAKE THE ASSOCIATION MORE USEFUL TO BEE-KEEPERS.

Our Secretary has given me rather a difficult and delicate mission in asking me to take the pulse and temperature, as it were, and prescribe for this august Association. No doubt the patient will take the medicine kindly, and the members will suggest many other remedies which have not occurred to me.

In forming and carrying on an association the first thing to consider is the aim of the association—its excuse for existence. While I have not seen in the by-laws the object of the Ontario Bee-Keepers' Association, I consider it is, or should be, broadly, "the advancement of the bee-keeping interests of this Province." This is effected, first, by an annual convention where the members meet, and, face to face, discuss and exchange ideas on both the practical and the business side of bee-keeping.

Second, by the continual and persistent effort of the directors and officers to develop bee-keeping as a business, and overcome the obstacles in its way. In the years that I have been a member of this Association, I find a certain lack of business methods, a failure on the part of members to take the Association and its mission seriously. The conventions are looked upon too much as social gatherings, owing largely to the fact that, with many, bee-keeping is treated as a side-line, whose profits are very much of a bonus—almost clear profit. With them the convention is an outing, where acquaintances are formed which ripen into friendships, lasting and good. But the business-end of the convention, which should be foremost, is overruled, sessions are delayed in starting by the non-appearance of officers and members. Discussions often become prolonged and pointless so that the time of the convention, which, at a very low estimate on the expenses incurred by members, worth ten or fifteen dollars an hour, is ruthlessly wasted.

Another point, which is more delicate to touch upon, yet is vital to the good work of the Association, is the fear which most of us have, to a greater or lesser degree, that some one's feelings may be hurt—either our own or those of some friend. Can we not rise above this, and as sensible business men drop bickerings and personal preferences, and petty animosities, and toughen up tender skins, and study what is best for the Association as a whole?

What can this Association do for the advancement of bee-keeping in Ontario? Something has been done in the way of advertising Canadian honey at the great fairs and exhibitions. The Honey Exchange Committee is doing a good work in collecting crop reports and giving a sort of weatherman's forecast prices. Good literature is provided the members in the form of the Canadian Bee Journal. The transportation committee is battling with the problem of better freight and express rates on honey, bees, etc. Something has been done in the way of legislation against the adulteration of honey, and for the checking of disease among bees.

As to how the Foul Brood Act is being carried out, I shall leave to others on the program better versed in the subject than I. We have also an annual Government grant of money, but is there not room for more to be done in this line? Other branches of agriculture are receiving strong Government support in the way of opening up markets, and the proper grading and distribution of products. How about honey markets, and the grading of honey? Fruit, dairy products, etc., must be inspected by a qualified Government official before going on the market. Honey can be shipped in any careless form, and the careful shipper must take a share of the consequences. Other lines are put to the front, bee-keeping is crowded back. Poultry-keeping, fruit-growing and flower-culture are considered dignified occupations; bee-keeping is a *joke*. We are "bee-men" or "honey-men"—spoken with a smile. Why should this be? Wherein does the remedy lie? In ourselves. I find bee-keeping taken more seriously in some parts of the country than others. I attribute the difference to the attitude of the bee-keepers themselves. Self-confidence and ability inspire the confidence of others. But we need the help of the power that is helping others along—are we using the help we already have to the best advantage?

We already receive a considerable amount of money from the Government. A large portion of it goes to defray the expenses of the directors while attending the regular conventions of the Association. More of it goes to the local associations, and is used by them to send delegates to the convention. Is this the best way in which the money can be used for the advancement of bee-keeping? If the directors work earnestly during the year to organize and enlighten the bee-keepers of their respective districts, and to increase the profits of our business, and come prepared to report progress at the convention; if the delegates seek to promote the interests of their respective associations while at the convention, and go home filled with practical ideas for the benefit of those who sent them, it is well. But why this double expense? Why not let the local associations be district associations, and let each district association appoint its delegate to the Provincial convention? This delegate being the representative of his district should become the director for that district of the Ontario Association. He—if he truly and conscientiously represents the association sending him—should be entitled to his expenses at the annual convention. I consider that this is the only way in which the districts can be truly represented, as we will all admit that the attendance at an annual convention, aside from those having expenses paid, is mostly local.

Another plan for electing directors would be that suggested by me in the Canadian Bee Journal some time ago. Supply each member with a list of members arranged according to their districts, and let voting be done by ballot. The present system of open voting cannot, in my estimation, be too strongly condemned.

MORLEY PETTIT.

Mr. Byer said he thought the social side of the conventions should not be discounted. He thought the Association entitled to Government aid in marketing honey.

Mr. Hall favored electing our neighbors, "because we know them." Voting should be done by ballot.

Mr. Hutchinson thought we should have nominations by mail, as they do in the National Bee-Keepers' Association.

Mr. Dickenson said if a man had been in office say ten years he should be superannuated. Offices should not be held forever by the same men; yet he positively refused to be nominated for office in the Association.

Mr. Holtermann—It is contrary to the Agriculture and Arts Act for local associations to elect directors for the Provincial, but they might nominate. They should not trade and traffic in offices as honors, but put the best men in the best places.

The Directors' Report recommended as Inspector of Apiaries James Armstrong, of Cheapside, and Assistant Inspector, Jacob Alpaugh, of Galt.

The Secretary's report showed 155 members, and 11 affiliated societies.

INSPECTOR'S REPORT—OFFICERS FOR 1906.

Inspector McEvoy gave a long verbal report, and agreed to send in his written report later. He was re-elected, pending the revision of the Act whereby three inspectors will be appointed.

The election of officers for 1906 resulted as follows: President, H. G. Sibbald, of Claude; Vice-President, R. H. Smith, of St. Thomas; Second Vice-President, F. J. Miller, of London; Secretary, Wm. Couse, of Streetsville; and Treasurer, Martin Emigh, of Holbrook. Directors: District No. 1, W. J. Brown, Pendleton; No. 2, J. K. Darling, Almonte; No. 3, M. B. Holmes, Athens; No. 4, R. Lowey, Cherry Valley; No. 5, John L. Gros Jean; No. 6, H. G. Sibbald, Claude; No. 7, J. Alpaugh, Galt; No. 8, Jas. Armstrong, Cheapside; No. 9, R. H. Smith, St. Thomas; No. 10, G. A. Deadman, Brussels; No. 11, F. J. Miller, London; No. 12, Denis Nolan, Newton Robinson; and No. 13, Prof. Sherman, of O. A. College, Guelph. Auditors, J. L. Byer and E. Grainger. Revisers of Report, Morley Pettit and H. G. Sibbald. Representatives to Fairs: Toronto, E. Grainger; London, J. B. Hall; Ottawa, J. K. Darling. Inspector of Apiaries, Wm. McEvoy; Assistant, F. A. Gemmill.

BEE-KEEPING IN JAMAICA.

Arthur Laing, who spent last winter in Jamaica, spoke of the advantages and disadvantages of bee-keeping in that island of the British West Indies. The advantages were a pleasant climate and cheap help. The disadvantages seemed to be many. The first was the difficulty of getting teaming done. There they team with carts of the roughest kind, which can only take eight or ten hives to the trip.

The second, Mr. Laing called the wintering problem, a matter which Northern bee-keepers would expect to go South to escape. From the middle of October for two or three months the bees kept going down. There seemed to be just enough honey coming in to make them wear themselves out flying after it, but not enough to build them up. He mentioned also moths, which can breed all the year round, having no cold season to check them; and ants of many varieties which work havoc in the hives.

With reference to marketing Jamaica honey, prices are very low and sales unsatisfactory. It is stated by buyers who have handled it that Jamaica honey will not keep like other honey.

Mr. Laing showed three samples of honey, Canadian white clover honey; Jamaica logwood honey, which is two shades darker than white clover and of inferior value; and Jamaica Christmas Bells honey, which is very dark. He had, while there, an average yield of 25 pounds per colony. Suitable packages are very hard to get. Many salt-pork barrels are used, to the disadvantage of the honey. All told, it is very difficult to keep expenses from eating up profits with honey at 2 to 2½ cents per pound.

Miscellaneous Remarks.

Mr. Hershiser said he always learned something when he came to a Canadian convention. He found bee-keepers here averaged up very well with any in the States. Referring to election of officers, he believed in keeping a good man in a good place, yet the office might be changed to another good man, sometimes. Speaking on his subject, "Beeswax Rendering," Mr. Hershiser estimated in Ontario about 200,000 colonies of bees, producing an annual surplus of say, one pound of wax. By the ordinary processes one-fifth of this wax, or about 40,000 pounds, is wasted in rendering. He claimed to have discovered a process whereby all the wax is saved but about one percent.

The Hon. Nelson Monteith addressed the convention. He said he felt the efforts of bee-keepers in the Province were giving good results. We have a large Province, over all of which bees could be kept. At present the industry is only carried on in a small section of the Province, yet it represents an investment of about $1,200,000. The bee-keepers are turning out an excellent article, but are too modest to advertise properly. You haven't pushed your business enough, said Mr. Monteith. Honey, as one of the best natural foods, should be used much more by the people than it is. If every one knew that one pound of honey is equal in food-value to about five pounds of pork, much more of it would be substituted for pork. Also in the matter of varieties of bees it is well to be ambitious for something more than what we have. Whenever we think we have reached the ideal we begin to lose ground. Mr. Monteith remarked, further, that the bee-business has a wider sphere than honey. It is of immense value to the fruit and seed-growers. He stated that it was for this reason he became a bee-keeper himself.

Mr. Hutchinson, who was judge in the Honey Department at the Fruit, Flower and Honey Show, gave some useful advice to exhibitors. He said that some few of the exhibits of honey reminded him of an overdressed person. Simplicity should be the watchword in setting up exhibits. Then the judges should have score cards, on which they could award a number of points for each feature of the exhibit. For instance, in extracted honey so many points could be given for flavor, so many for color, for body, etc. Then figure up the points and decide mathematically the awards.

Mr. Holtermann remarked that a good judge would want to have a score card, and a poor judge should have one. The exhibit of honey was quite up to the usual high standards.

Mr. Hutchinson—In judging wax, I would give equal points to color, clearness, and texture.

Mr. Hershiser—Which do you prefer, wax from cappings or from old combs?

Mr. Pettit—Wax from cappings makes a harder comb foundation, which sags less.

Mr. Holtermann suggested, for experiment, the use of different kinds of wax in the brood-chamber.

Bees Moving Eggs—Wax Rendering.

Ques.—Will bees move eggs?

Mr. Alpaugh—Yes. I had queen-cells built, eggs carried and put in them and queens reared.

Mr. Holtermann and Mr. Pettit both endorsed this.

Ques.—What method does Mr. Hershiser follow in rendering wax?

Mr. Hershiser—The principle is this: Fill a sponge with ink and squeeze it as hard as you like, and you cannot get out all the ink. Dip it in water and squeeze again, and you get more out. Repeat this a few times and the sponge is clean.

Good Bee-Smoker Points.

Ques.—What are the points of a good smoker?

Mr. Alpaugh—It must work easily and throw a good volume of smoke. It must be easy to light, hold fire well, and not be clumsy. Brass in the barrel is a good point, but expensive. A pair of bellows properly made and taken care of will last for 10 years. There should be a fine-wire-screen to keep sparks out of the bellows.

Mr. Holtermann wants one that will not draw sparks out on the hands and clothing of the operator. He prefers a long, narrow barrel, because it burns more evenly.

Mr. Miller prefers a smoker wide and long. When once filled it does not puff to a flame, gets a long draft of smoke, and the smoker is quiet. His smoker barrel is 4 by 8½ inches, with a large bellows.

Mr. Holtermann—Moisten the material slightly, then avoid giving violent puffs. Cedar-bark should be thick.

Mr. Pettit—Get bark from a large cedar-log, and the bark will be several inches thick, and holds fire better than anything else.

Mr. Miller holds his smoker between his knees, to be handy when not in use.

Second-Swarms and Queenless Colonies.

Ques.—Will a colony cast a second-swarm, leaving the colony hopelessly queenless?

Mr. Alpaugh—Yes, sometimes when cells have been broken down. I cannot explain it, except that the bees had decided to swarm, and would swarm regardless of what the bee-keeper did.

Keeping Pollen Out of Sections.

Ques.—How best to keep pollen out of sections, and hive on starters?

Mr. Alpaugh—If only foundation in sections, there is no trouble.

Mr. Pettit—Put a pollen-catching comb in the brood-chamber, and use a queen-excluder.

Mr. Sibbald—Don't put the sections on for 24 hours.

Formalin for Curing Foul Brood.

Ques.—Can an apiary be cured of foul-brood with formalin?

Mr. Sibbald—I tried this very thoroughly, and it was not a success. The combs are not fit to use again. The honey will taste of formalin for years.

Mr. Laing has cured one colony, and is working on others.

Sugar Syrup for Feeding—Dark Honey in Sections.

Ques.—Is sugar syrup made by stirring sugar into cold water just as good for feeding as though boiled?

Mr. Hall—Better than boiled, if fed early in September. It never candies.

Ques.—Is there danger of dark honey being carried from the brood-chamber to the sections?

Mr. Alpaugh—Certainly, there is.

Ques.—Is it wise for the bee-keeper to give a full report of his crop, so it gets into the hands of dealers?

Mr. Holtermann—He should give facts just as they are.

Mr. Sibbald—Dealers will not buy honey, except at extremely low figures, until they know the situation.

Appointment of Committees.

Honey Exchange Committee, the same as last year.

Transportation Committee—R. F. Holtermann, J. D. Evans, and Wm. Couse.

Revising Committee—M. Pettit and H. G. Sibbald.

Committee to Fruit, Flower and Honey Show—The Executive Committee of the Association.

(Continued next week.)

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

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The Premiums we offer are all well worth working for. Look at them in this copy of the American Bee Journal.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Size of Hive for Short Honey-Flow

1. I have come to the idea of putting my bees into big hives, as the honey-flow is short in this part of the country, and we have but a few honey-plants to depend upon. I will make my own hives this year, and I have been planning to make them to hold 12 Hoffman frames. What do you think about it? Do you think they will be too big?

2. I have 18 colonies of bees, all with Italian queens but 5, and as queens are high in price in the spring of the year, I thought to let the requeening go till after July 1, or later, and keep the black drones from coming out and mating with any queens. I will put a zinc board at the bottom of the frames so as to keep the drones in the hive. Will this do?

Iowa.

Answers.—1. The size will be all right for extracted honey; but for comb honey it depends upon the management whether you might not do better with smaller hives. By that I mean that the right kind of management with smaller hives might give better results, giving two stories to all colonies needing the room up to the time of harvest. You see you can have just as much room with small hives as with large ones, provided you have stories enough. But for extracted honey it will be less trouble to have the larger hives.

2. Yes, only it will be well occasionally to clean out the dead drones that will accumulate on the bottom. Of course it is not absolutely necessary to do this, only it will be better for the bees not to have a cemetery in the hive.

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Wintering in a Bee-Cave

I have my bees in a cave in a clay hill. It is about 24 feet long, 10 feet deep, and 8 feet wide, with a ventilating tube 4 inches square in the back end of the cellar, and reaching within 2 feet of the bottom of the cellar and out at the top. The cellar has double doors. I have 115 colonies in it. The thermometer has stood at 52 degrees Fahr. for about 40 days, and the bees are still. I have kept the ventilator closed, as I am afraid of ventilation by the ventilating tube. It seems to be damp in the cellar. I never had such high temperature in a bee-cellar before. What would you advise me to do?

Iowa.

Answer.—The weather has been unusually warm, and that may account for the higher thermometer, although so long as the bees are still there can not be any great harm going on. The probability, however, is that in a damp, close cellar at 52 degrees the quietness will not continue. Try opening the ventilator. That will be likely to lower the temperature, and it may make the cellar less damp; and most important of all it will give purer air.

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Wintering Packed Bees Outdoors—Ants in Honey—Scorched Honey for Spring Feeding

1. Accompanying this you will find a sketch and description of the way I have prepared my bees for wintering outdoors. How will the bees winter packed this way?

2. After I put some comb honey in the shipping-cases and stored it away large black ants got in it. What would keep them out?

3. I rendered up some honey which was in dark combs. I believe it got a little scorched. Would it do for spring feeding?

Iowa.

Answers.—1. Your plan of packing with hay and covering all with boards so as to make the whole rain-proof will probably bring different results in different winters. When a warm day comes, the sun will not warm up the bees through the boards and packing nearly so soon as in a hive without any packing. So if there is a long and severe winter, and only one or two spells warm enough for bees to fly, if those spells occupy only a small part of the day, they might not be warmed up enough to fly, and so winter poorly. On the contrary, if each warm spell is long enough so the bees get warmed up enough for a good flight, they ought to come out in fine condition. It is a question, however, whether in any case your chances might not be better with a good cellar. You are in about the same latitude as I, and if other conditions are the same with you, the cellar ought to be the best place. The trial of part of your bees wintered in, and part out, would help settle the question.

2. A good shipping-case ought to be tight enough to keep out large ants. One way to get the start of the ants would be to have the cases piled on a platform, the platform resting on legs, and the bottoms of the legs standing in old oyster cans or something of the kind containing carbolized oil.

3. It will be perfectly safe to feed it as soon as bees can fly every few days.

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Mice in Cellared Hives

I put 6 good colonies in winter quarters last fall, and there are a lot of dead bees all over the front of the hive. They are not whole ones, but small parts, such as the legs, parts of bodies, and heads. Do you think that the other bees do this, or can it be mice? There is about one-half cupful in front of each hive. I am somewhat alarmed about it. They seem to have plenty of honey, and the rest of the bees seem to be very lively. What do you think is the trouble?

Minnesota.

Answer.—Mice, sure. It will not be a bad thing if you screen the entrance so the mice can not pass. Even if by that means you fasten a mouse in a hive, it will be better than to let it have free range of all the hives. It is most likely that the mangled remains are only those of bees that have died, and the mice gnawed them to pieces after their death. There would be no loss in that case, and the harm of the mice is not from their killing bees so much as gnawing the combs.

But when you bar the entrance against the mice, be sure not to fasten the bees in. Use wire-cloth with about 3 meshes to the inch. That leaves the bees free to pass, but bars Mr. Mouse.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

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Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

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Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when writing us on other matters

"YON YONSON" AND HIS MUSICAL DAUGHTERS.

Translated into ordinary English, this is what "Yon Yonson" wrote us about the above picture:

"Mae, the oldest daughter (16), plays the piano, and Stella (14) plays the mandolin. Minnie is the youngest (12), and plays the second violin. 'Yon' plays the first fiddle, or any of the other instruments. We try to enjoy life as we go. We don't play for dances, but sometimes play for literary meetings.

"We are all lovers of music, and think that home is not complete without music and singing. Good music and singing make both parents and children happier and better, and smooth out many of the rough places in life. My wife is modest, and preferred to operate the camera, so she is not in the picture. The two little 'Yons,' 6 and 8 years old, do not play any of the instruments yet, but sing some. They could not keep from giggling, so were sent outdoors."

Yon Yonson's Trip to the Moon in Search of New Races of Bees

Vel, for long time ay hant vos bean rite to das Merican Bee-paper, but ay just bean to das big N. B.-K. A. meeting in Chicago, so ay goan to tell bout my perience. Maw, she say she hoap ay hav good luck, cause she is kind of fraid da train might tip over, or someting

Vel, it vos som plenty big crowd, an dom mak plenty big talking bout bees an bissness, an of course dom say lots of tings vot vos smart, but dom don't vos forgot to say sometings bad bout each odder, too. Dom say about 85 percent of goot, an 5 percent of awful bad, an da odder 10 persent dident mount to so very much, but ay feel vell paid for dat 85 percent of good.

Vel, ay stay tree days an den ay start for home on da fast night express. Ay felt kind of tierd and sleepy, but da train go awful fast, an first ting ay know ay vos sitting rite over da track, an ay don't kin hear or see anyting of da train, but a awful nice old man come to me, an he say, "Hello, Yon Yonson! Don't you vont to take some ride on my new air-ship."

"Vot is your name?" ay say.

"A. I. Gleanings," he say.

"All rite," ay say.

So ay git in da air-ship vid Mr. Gleanings, an he tak holt of da leaver, an up ve go.

"Ver you bound for?" ay say.

"Ay yust com from Cuba, an ay goan to da Nort Pole, an mebby to da Moon," he say; "to git some new race of bees vot got toungs long as your arm, an den ay goan to start big quveen yard in Cuba," he say.

"Vel," ay say, "if you git bees vot got toungs as long as your arm, den mebby dom be abel to lick da foul brood in Cuba," ay say.

Vel, in about 45 minit ve landed at da Nort Pole, an den ve put on ours overcoat an mittens, an go out to tak a look at da Pole.

Da Pole is made of sickamore, an is hollow on da inside, an da iss a big not-hole about 6 feet up. Mr. Gleanings he say he tank it vos som bees inside, an den he go to da tool-box an git a Clark's cold-blast smoker an puff som smoke in da not-hole. An purty soon ve hear somebody sneeze, an ven ve look up ve see Mr. Santa Claus sitting on top of da Pole, an he look kine of mad, an he say, "Vy for you mak so big smoking?"

Den Mr. Gleanings he say he is "lookin for some new kine of bees, an he tank mebby da Nort Pole vas a bee-tree"

Mr. Santa Claus say he don't kept bees any more, cause bee-supplies is gittin' so high, an he is fraid Mrs. Santa Claus might git a bee in her bonnet; an Christmas trade is so big dat he all time bussy making yumpin jacks an all kine of toys for da kids, so he git all his honey from da Man in da Moon.

Den he say dat Mrs. Santa Claus got da tooth-ake, so its better ve not stan too close to da not-hole, or she mite give us some lesson on shake swarming.

So ve vish Santa an his family a Merry Christmas, an git in da air ship agin an start for da Moon.

Vell, it tak 5 hours an 40 minit to git to da Moon, so ve land at Knicklasburg, da capital of da Moon, about 6:30 in da morning.

Da Man in da Moon vas gone to Jupiter on a vacation, but his private secretary say he be glad to show us around.

Mr. Gleanings asked, "Kin you show us some bees?"

"Yes, dom have several apiaries," da secretary say, "but dom is about 500 miles apart, cause in da Moon da bees fly bout 250 miles for honey."

Den ve asked, "Does da Man in da Moon have a home apiary?"

"Yes, da home apiary vas about 50 miles out of town."

So ve git in da air-ship, an da secretary git in da front seat vid Mr. Gleanings, an in bout tree minit ve come to da home apiary.

Vell, da home apiary vos only von big hive, but it is yust 'bout so bigger as Montgomery Ward's big store in Chicago. An had a big elevator on da front side. Da bees vos yust bout so bigger as a yearling calf, and had 14 yellow bands, but dom don't got any vings a tall, but each bee got a little air-ship of his own, an a 5-gallon can an a dipper, an dom yust sail over to da basswood timber, 'bout 200 miles avay, an dip da honey rite out of da blossoms, an fill da can, an den pull for home.

Ven dom got home dom yust exchange da full can for a empty von, an go agin.

Da nurse-bees dom yust set bout 40 cans in da elevator, an den pull on a string, an up she go. Dom store all ders honey in cans, and don't build comb cept for brood-rearing.

Ven ve vos dare dom yust begin to fill da 17th story, but som time dom stop da elevator at secont floor an leave 2 or 3 duzzen cans for brood-rearing.

Vell, of course ay vos surprised, an ven ay seen som bees vid big packs on deirs back, ay asked vot for da bees carried dom big bundles.

Da secretary he say dat vos pollen.

Den I ask, "Ven did dom tack off der honey?" An he say dom never steal da honey from da bees, but ven da bees had any honey to spare, dom yust call up da Man in da Moon, an he come in his air-ship, an da bees carry out so many cans of honey dom kin spare, and put in da air-ship, an he tak it home an store it in da vare house. Da people in da Moon eat only honey, cause dat iss Nature's own food, an ven dom git da cans empty dom have to bring dom back.

In da Moon dom don't have vinter an summer like ve have, but ven it is Full Moon den it is summer, an ven it is New Moon den it is vinter. Dom have daylite all summer, an dark all vinter, so dom have 14 days daylite summer, an den 14 nites all winter. Ay tank dat komes purty handy.

Da bees don't have any stings, an dom don't never fite or rob each odder, an dom mak deirs own cans and supplies—hive an every ting—an all da Mans in da Moon have to do is to go in da air-ship an git da honey an bring back da empty cans.

Dom never have but von hive in da apiary, an dom don't never svarm, but ven da quveen vant to send out new colony she yust lay von quveen egg, an in about tree years it hatch, an ven da young quveens is 4 years old she yust tak half of every ting—cans, honey, air-ships, an ever ting—an half of da bees, an go an hunt for new home. Ven da quven raises a young quven dom raise von young drone, too, an dis young drone go avay mit his sister an by an by he trade sisters vid some odder drone from vay off; but da drone have to move, an da quveens stay in deirs own home. It never is but von drone in a hive, an he is da boss of da can factory an yeneral supertendant of da air-ship department. Da quvens and drones liv fur bout 200 years, an is alvays hapy, an da mans never rob da bees, but da bees give da mans all dom have to spare.

Da Man in da Moon tank lots of his bees, an da bees is in love vid da mans in da Moon. Den ay tank meself how different iss da Moon from da United State. Here da bees rob each odder, an da mans rob da bees, an da bees sting da mans, and da bee-mans quvarl an talk bad bout each odder. Den ay tank 'bout da Honey-Producers' League, vat try to help da bee-keepers, an da bee-keepers don't preciate deir kindness, but call dom bad names, so dom have to feel bad; an ven dom offer to give all da League's money to da N. B.-K. A. da N. B.-K. A. vote to tak all deirs money, an not give anyting in return but hard vords, an dom don't even say "*tank you.*"

Den ay tank meself if all da members could lurn some lessons from da Man in da Moon an his bees, mebby dom vould lak each odder better, an do lots of good in das vorld.

Den ay say to Mr. A. I. Gleanings, "I believe its better ve not try to git bees vid longer tongues; but if da bee-keepers yust had a little shorter tongues; da common Italians is good nuff."

Den ve all git in da air-ship agin an go back to Nicklasburg, an ve shake hans and tank da secretary, an he say ve moste com agin som time, an ve say ve shal be muchy glad to come.

Ay felt lak ay should lak to invite da Man in da Moon to come to ours next N. B.-K. A. meeting, but ay vas 'fraid mebby he might not feel to home, so ve say good-by, an Mr.

Gleanings turn da lever an ve start for da Unite State *via* da Nort Pole.

Ven ve got about half vay from da Moon to da Nort Pole ay lost my hat, an ven ay vas looking for ma hat some von come an shake me, an say, "Vake up! You git off at da next station!" An den ay find ay don't bean to da Nort Pole or da Moon a toll, but ay only vent to sleep on da train, and dreamed da whole ting. YON YONSON.

Reports and Experiences

Results of the Season of 1905

I commenced the season of 1905 with 45 colonies, and took 2300 pounds of comb honey and 200 pounds of extracted. I put 79 colonies into winter quarters apparently in fine condition.

I have taken the American Bee Journal for nearly 30 years, and dare not drop it now.

J. L. ANDERSON.

Harvard, Ill., Jan. 11.

To Keep Beeswax from Cracking

To keep beeswax from cracking, I run a thin-bladed knife about the time the wax forms a crust around the wax in the can. After thus loosening it, I find a solid cake of wax the next morning.

I started with 27 colonies of bees when spring had fairly opened, or after all danger from spring dwindling had passed. They increased to 32 colonies, and I got 1580 pounds of honey, about 200 pounds of it being comb honey in 1-pound sections. There was any amount of honey in the fields, but the weather was too cold and rainy for the bees to go and get it. FRED BECHLY.

Searsboro, Iowa, Dec. 17, 1905.

Considerable Interest in Bees

I began last spring with 3 colonies of bees, and by natural and artificial swarming I increased the number to 12, which I now have. There seems to be considerable interest shown in the bee-business in and about this city. Although the past season was not a profitable honey season, the bees stored a sufficient quantity to carry them through the winter.

PHILIP MOHLER.

Lincoln, Neb., Dec. 22, 1905.

First Failure in 5 Years

For the first time in 5 years my bees were a failure the past season; but as nearly all the bees in Kansas were in the same condition, I have no complaint to make.

GEO. A. REED.

Assaria, Kan., Dec. 18, 1905.

Bees Did Poorly

Bees did very poorly this year. I had 22 colonies last spring, and my average was about 20 pounds per colony. I now have 27 colonies in fair condition. I hope for better success next season. C. JOB.

Cloverdale, Ind., Dec. 29, 1905.

Gasoline for Keeping Dry Combs

I never saw any instructions in the books or papers for keeping dry combs from moths by the use of gasoline. I had a set of combs that was badly affected—they seemed to be alive. I sprinkled some of them with gasoline and put them in a hive-body and shut them up tight. In a day or two I opened it to see how they were getting along. I fonnd every thing asleep, and they stayed so; the vapor of gasoline did the work.

Now, in keeping combs over summer, put them in a tight box with a sponge or something of the kind filled with gasoline. When it gets dry, wet it again. Before using, give them a good airing. I hived a swarm of bees on some last season, and they gave me over 40 pounds of surplus honey.

Thomaston, Conn. C. S. GUERNSEY.

Crackless Wax-Cakes—Wiring Frames

If the sides of the wax-mould were lined with a piece of hard, smooth paste-board, and the bottom was covered ½ inch or so with water there would be no more cracks, no matter how rapidly one let it cool. The cause of the trouble is the adhesion of the wax to the sides of the mould, and not the unequal cooling.

The contrivance of Mr. Getaz for wiring frames (see page 842) is very neat, simple, and doubtless effective. Here is another method:

Say the frame is ready for the wire. Fasten one upper corner of it securely in a vise; take one length of wire by each end and give it a good pull, making it 2 to 3 inches longer. This will take all the kinkiness out of it. Fasten one end to a darning-needle and sew the wire into the frame as if it were thread.

Holton, Kan. F. J. REICHERT.

GOLDEN YELLOW CALLA LILY, 5 Bulbs.
50 KINDS FLOWER SEEDS 10c.
Asters, Balsam, Canna, Calliopsis, Nasturtium, Morning Glory, Pansy, Larkspur, Jobs Tears, Poppy, Golden Glow, Snapdragons, Cosmos, Pink, Zinnia, Verbenia, Monkey Plant, Sweet Rocket, Primrose, Ice Plant, Petunia, Castor Oil Beans, Portulaca, Candytuft, Sweet Peas.
5 CHAMPION BULBS.
The Summer Hyacinth, Golden Lily, Humming Bird, Gladiolus, Giant Tuberose, Baby Breath Oxalis, all this beautiful collection of seeds and bulbs only 10c. in silver or 5 2-c. stamps to pay the cost for packing and postage. Order quick and be sure of this grand offer—only **10 cents.**
CHARLESTOWN NURSERY, - CHARLESTOWN, MASS.

FOR SALE—BEES AND HOME
44 colonies of bees in good condition; home, 9½ acres of best land near town, with plenty of water: strawberries, raspberries, blackberries, gooseberries, and currants; also plums, pears, apples and peaches. A nice home, adapted to bees, fruit, and chicken business. Possession given as soon as sold. Address,
N. SANDERS,
4A1t GREENSBORO, Henry Co., IND.

Berry's Golden Rule Poultry Farm.—This is the first season for this firm. It has assumed the poultry business recently conducted by Mrs. Berry, in connection with the A. A. Berry Seed Co. It has been a breeder of thoroughbred poultry for a number of years, and heretofore has made Plymouth Rocks its specialty. Under the new management this company is offering stock and eggs from 18 of the leading varieties of poultry. It also manufactures and sells the new "BIDDY" Incubators and Brooders, machines with some new features that are both labor and money savers. This company also carries a full line of poultry supplies. Orders for anything in the poultry-line will receive prompt and careful attention, and be filled to the entire satisfaction of the customer. All who are interested in poultry and incubators should write for this firm's valuable book, "Profitable Poultry," which will be sent upon receipt of 3 cents in stamps to pay postage. It will pay you to read it. Address, Berry's Golden Rule Poultry Farm, Clarinda, Iowa, and kindly mention the American Bee Journal when writing.

Please mention Bee Journal when writing Advertisers.

CONVENTION NOTICES.

Washington.—The annual meeting of the Washington State Bee-Keepers' Association will be held in the old M. E. Church, on Third Street, North Yakima, Wash, Feb. 14, 15 and 16, 1906. An interesting program is assured. One feature will be the illustrated lectures on bee-keeping. Let all bee-keepers in different parts of the State attend and make this an interesting and valuable convention.

VIRGIL SIRES, *Sec.*

Wisconsin.—The Wisconsin State Bee-Keepers' Association will meet in annual convention at the Capitol, Madison, Feb. 6 and 7. An interesting program is being prepared. Several bee-keepers of prominence are preparing papers on subjects of special and general interest, which will be discussed. The Question-Box will, however, be the main feature. One and one-third rate round-trip on all Wisconsin railroads. GUS DITTMER, *Sec.*

Augusta, Wis.

Colorado.—The Colorado State Bee-Keepers' annual convention will be held in the Chamber of Commerce Building, Denver, Jan. 30, 31, 1906. This will be during "Farmers' Week," when many farmers' organizations will be in the city holding conventions. We are assured of low railroad fares from all points of the State. We are planning for our usual good convention. R. C. AIKIN, *Sec.*

Loveland, Colo.

Michigan.—Michigan State Bee-Keepers' Association will hold its annual convention Feb. 1 and 2, 1906, in the parlors of the Blackman Hotel, at Jackson. The Michigan Dairymen will hold their annual convention at the same time in Jackson, which secures sufficient attendance to allow the railroads to give reduced rates—one and one-third fare, providing your fare going to Jackson amounts to 75 cents. When buying your ticket ask for certificate on account of Michigan State Dairymen's convention, and when the Secretary of that Association signs your certificate, you can secure your return ticket for one-third fare.

The first session of the convention will be held at 1:30 p.m. Thursday, Feb. 1. A good crowd and a fine time are expected.

ELMORE M. HUNT,
Bell Branch, Mich. *Acting Secretary.*

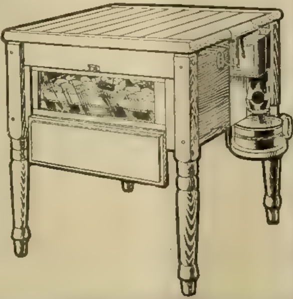
WANTED
The agency for Southern Iowa or the entire State, of some bee-supply manufacturer. Railroad facilities—none better—4 direct lines. Experienced in this line as well as bees. Address,
2A2t A. L. BARKER, Humeston, Iowa.

A Great Rose Offer by one of our advertisers.—It is not often that a seed-firm makes such a liberal offer as that of the A. A. Berry Seed Co., Clarinda, Iowa. They are sending to our readers a beautiful Rose Bush, a packet of vegetable seed, and their fine seed-book—all for 10 cents, which covers the cost of packing and postage. This firm is one of the big seed-firms of the country, and handles a very extensive line of field, garden and flower seeds. They are seed-growers. Mr. Berry, who has always been a farmer, still lives on a farm, and some of their warehouses are located on their extensive farms. Send for their great offer, and mention the American Bee Journal when writing.

Fruits, Plants and Vines.—We find upon our table a new catalog of fruits, plants and vines, also of ornamental trees, plants and vines, issued by Green's Nursery Company, Rochester, N. Y. It has a fine lithograph cover, embracing many of the rare fruits introduced by this firm. The fruit department embraces nearly 112 illustrations. The ornamental catalog attached to the other contains 84 new photo-engravings, mostly taken by C. A. Green, of ornamental trees, plants and vines growing upon his own place. Mr. Green makes a special push this season of apple trees, standard and dwarf pear trees. Red Cross currant, London red raspberry and champion peach are leading specialties in this beautiful catalog, sent free to all on application. Please mention the American Bee Journal when writing.

Everything for the Bee Keeper

will be found in our Illustrated Catalogue No. 40. It contains a full line of Hives, Supers, Followers, Sections, Section Holders, Frames, Extractors, Smokers, etc. All these and many other essentials are manufactured by us. Everything is guaranteed to be right and of best quality. Our prices are so reasonable that any bee keeper may afford the best supplies. We cannot tell you here of all the good things in this book. Better send for a copy today. We mail it free, together with a copy of the **Progressive Bee Keeper,** a splendid monthly publication devoted to bee interests. It will help you start right and keep you right after you are started. It is invaluable as an aid to every bee keeper. **Ask for the paper and the book.**



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Never Go Out
And last from 5 to 21 years

Tin 4-in. Smoke Engine $1.50. 3½-inch $1.10. 8-inch $1.00. 2½-inch 90c. 2-inch Wonder 65c—per mail.
Sent on receipt of price per mail.

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OTISVILLE, PA., Jan. 18, 1904.

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SPECIAL OFFER—Send this ad with 35 cents for a year's subscription. Address.
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a cheap Hive is a money-saver.

You wouldn't buy eggs with the same argument swaying your judgment, would you?

Better have a dozen of the good kind than a full gross of the cheaper grade—(we mean the eggs.)

But then—it's the same with Hives. Good Hives are a source of pleasure and profit.

"The Elgin" is a Good Hive

The price is not too high considering the excellency of material and workmanship.

Write us before you order your Supplies for the coming season. A postal will bring you our Catalog.

The National Supply Co.
ELGIN, ILL.

I WILL CLOSE OUT

my stock of Bee Supplies at cost. Write quick and get prices before all are gone, if you want a bargain
CHAS. OHLOFF,
3A2t POSTVILLE, IOWA.

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**

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MADE $750.00 IN TWO MONTHS

WORKING FOR US

A. D. Blocher of Davison, Mich., is a farmer. He believes in turning his spare time into money. He read the advertisements of the **Co-operative Society of the National Supply Co.,** and was convinced that the Society was a good thing for himself and his friends. He believed in co-operation, and he saw that here was a Society which offered something tangible, safe and profitable, in that line. He wrote us and later joined the Society, became an active, enthusiastic worker, solicited his neighbors to join, distributed several hundred of our catalogues among them, and induced a great many of them to become members. His compensation for distributing the catalogues; the membership fees on the persons he induced to join the Society, and commissions on the goods purchased by them **paid him the handsome reward of $754.20**—all done in his spare time, and every member thanked him for getting them to join the Society. **What Mr. Blocher did you can do.** Hundreds of others—men and women—have done nearly as well and are doing it today. Write us and we will explain it all. We will show you just how and why you can do as well or better. This is the opportunity of a lifetime and will only cost you the effort of writing us a postal card to learn all about it; and it will mean very little work on your part to make big money. Besides we will show you how you will profit by your membership in this Society every year as long as you live. Mr Blocher made $754.20 in two months, but that was not all the benefits he received—his membership made him a partner in a business that is saving him several hundred dollars every year. Write us a postal for full particulars. Do it now.

A. D. BLOCHER
Davison, Mich.

YOU CAN DO IT TOO

How You Can Save 10 to 20 Per Cent on Everything You Buy

To save 10 per cent to 20 per cent on the cost of your supplies, join the Co-operative Society of the National Supply Co. and buy everything you need to eat, wear or use on the farm or in the home, from the Society and you will save from $10 to $20 on every hundred dollars you spend for merchandise. The National Supply Co., of Lansing, Mich., and Chicago, Ill., is one of the largest mail order houses in the world—its prices published in plain figures in its large, **free** 1,000 page catalogue are as low and on many articles a great deal lower than any other mail order concern. Anybody can buy anything from them and save money by doing it. Members of the **Co-operative Society** get a special discount of 10 per cent from the list on everything they buy through the Society, which in the course of a year means a saving to members of many hundreds of dollars. The average farmer can save from $100 to $250 a year on his supplies—**all on an investment of but $10** for a fully paid up, non-assessable Life Membership in this Society. Can you invest $10.00 in any other way that will bring you even **one-tenth** the income that this will? Can you buy your supplies as cheaply any other way? Co-operation alone makes such a thing possible. You have everything to gain and nothing to lose by becoming a member. If you join the Co-operative Society of the National Supply Co., and your savings in discounts on purchases should not amount to $10 during the year and you wish to withdraw, we will **redeem** your Membership Certificate by paying you back the difference between the amount of the discounts you have received and the $10 membership fee, together with 6 per cent interest on the amount so paid back. Isn't this a fair offer, and doesn't it take away all risk from you? No other co-operative society ever made such a broad offer before. We invite you to join and we make it easy and absolutely safe for you to do so. Write today for particulars and full explanation of how this Society is able to make these extraordinary offers.

How We Can Sell this $47.50 Jump-Seat Buggy for $34.20

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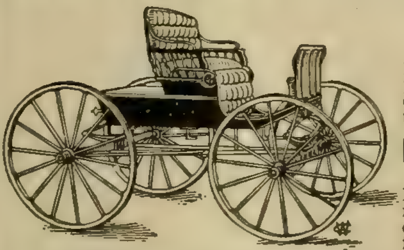
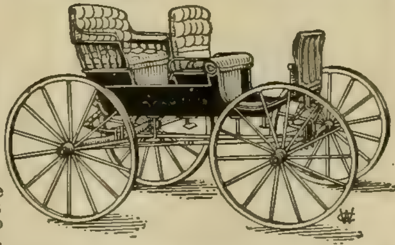


Furnished with Shafts, Carpets, Storm Apron, Wrench, etc. Our regular price for this $47.50 rig is $38.00.

Price to Members is $34.20

Here is a clear saving of $3.80 to purchasers who are members of the Co-operative Society. This is but one item of many, but it shows what a membership in this Society is worth to you in dollars saved.



This **National Jump-Seat Buggy** is actually worth $47.50 and you cannot duplicate it for less anywhere else. It is built for two or four passengers, made of good hickory, and is fully warranted in every particular—quickly changed from a single to a double seat without removing any parts. This is acknowledged to be the most convenient arrangement ever invented. It is very simple, making it possible to instantly change this rig from a two-seated buggy to a really desirable light market wagon—just what every farmer needs. **Wheels** are all hickory, Sarven or shell band, 1x¼ inch steel tire. **Gear—Axle**, 1 inch, dust-proof, and cemented to hickory wood, rear king bolt, fifth wheel and double perch reach. Oil-tempered, elliptic springs, strong enough to carry four passengers. **Body**—white wood and hickory, strongly ironed throughout, and full length body loops 60 inches long and 28 inches wide. **Cushions**—green cloth, whipcord or imitation leather. **Painting**—body black with dark green gear, narrow stripe, high-grade finish. We are only able to make this remarkable offer by taking the entire output of the factory, and saving all middlemen's profits—co-operation in this Society cuts out all needless expenses and profits between the factory and the member. Send us an order for a National Jump-Seat Buggy at once—$38.00 is cheap for it. To make the bargain still better, send for an Application Blank, join the Society, and save $3.80 extra—this extra saving will pay more than one-third the membership fee. Hundreds of members have joined the Society without it costing them a cent—the savings on their purchases paying the full fee and often leaving them a nice profit besides. We solicit you to join the Society **now.**

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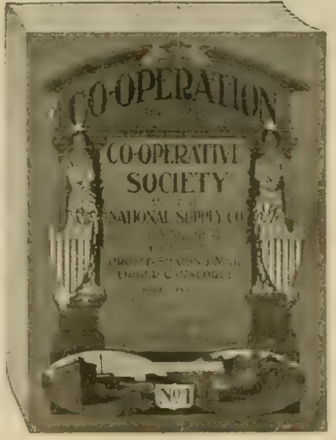
We want every family in the United States to have one of our large, handsome 1,000-page catalogues. It is the greatest **Buyers' Guide** ever published. Is illustrated with thousands of beautiful cuts; every page is brimming full of genuine bargains not to be found anywhere else. We also want you to read the article in the catalogue on "Co-operation"—it's a treatise on the practical workings of genuine co-operation. It shows how this Society, composed of farmers all over the country, is fighting trusts and combines, and how its members are improving their conditions through the force of co-operation. The Society is willing to pay well to have the catalogue placed in the hands of men who will join the Society and help us to extend still further the influence of our co-operation. If you want to make good money in your spare time, or if you can devote your whole time to the work, write us for catalogue—**we'll send it free**—and we'll tell you how A. D. Blocher made $754.20 in two months, and how you can do the same or better. Write today for the information, and begin the work at once.



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It is easy to make your own Hives with **Paroid** and **Neponset.** Many of the leading bee-keepers claim that they make better Hives at a less cost with our Roofings. Paroid and Neponset keep the hive warm and sweet in winter. Our method does away with cellaring the bees in winter. We cannot give details and specifications here, but will gladly send them with samples of Paroid and Neponset upon request.

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Write for a copy of my book which describes the profitable combinations of Egg, Broiler, and Roaster Farms.

It gives the prices paid for eggs and poultry week by week for the past three years. It tells how and when a hatch taken off each week in the year could be most profitably marketed. It shows how you can make $2.00 on a large winter roaster. It tells what profits can be made with each of the popular breeds, and the costs of production.

I have helped thousands to make money with poultry. My Model Incubators and Brooders are used on the money-making farms. It is my business to teach those who use them to do so profitably. Whether your needs are small or large, I will furnish, without charge, estimates and plans for a complete equipment that will insure success without your spending a dollar uselessly.

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The book we mail for $1.20, or club it with the American Bee Journal for one year—both for $2.00; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

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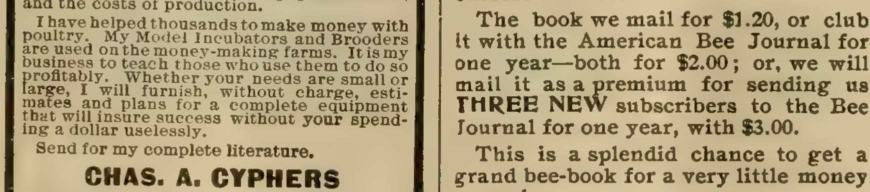

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Are worthless as honey-producers. CAUCASIAN BEES are not stingless, they are *gentle*. They produce honey. Try them next season. Have your queens, both *Caucasians* and *Italians*, *bred to order*, and then you will have what you want. Address,

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produces more honey and other money crops than any other State.

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For Sale—10,000 Lbs. of well-ripened Spanish-needle Extracted Honey put up in new 60-lb. tin cans—6c a pound for the lot, or 6½c for less, **F. J. GUNZEL, Weiner, Ark.**
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Until further notice, finest quality new crop California Water-White White Sage and Light Amber **HONEY** in 60-lb. tins, 2 in a case; new cans and new cases Write for prices and samples, and state quantity you want.

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The following discounts apply on all orders except honey-packages for current use:

For cash orders before Oct. 1—10 percent

Nov. 1	9 percent	Feb. 1	6 percent
Dec. 1	8 "	March 1	4 "
Jan. 1	7 "	April 1	2 "

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Tested seeds very cheap. Freight paid on trees. Catalogue, English or German, free. Write for it today. Address

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PURE ALFALFA

HONEY

IN 60-POUND CANS

We have a good supply of **Pure Alfalfa HONEY** in 60-pound cans that we can ship by return freight at these prices: 2 cans, boxed, at 8½ cents a pound; 4 or more cans at one time, 8 cents a pound—all f.o.b. Chicago. Cash with order. Sample, by mail, 8 in stamps, to cover package and postage.

Address,
YORK HONEY AND BEE SUPPLY CO.
141-143 Ontario St., CHICAGO, ILL.

85c for 15 NAMES For names and P. O. of 15 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 50c a year. F. C. is a wkly., 25 yrs. old, 1,300 pages a yr. Sample free. Farmer's Call, Quincy, Ill.

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On Cash Orders

Before November 1..................9 percent
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OF ALL KINDS

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Sample copy free.

Our large, illustrated Price-List of Supplies free on application. Address,

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JAMESTOWN, N. Y.

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Complete Stock for 1906 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH as most all freight now goes through Cincinnati.

Prompt Service is what I practice.

You will **SAVE MONEY BUYING FROM ME.** Satisfaction Guaranteed. Catalog mailed free. Send for same.

6 Percent Discount for January

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

Honey and Beeswax

Chicago, Jan. 8.—The market is steady with about the usual demand; the prices range from 14@15c for best grades of white comb honey. There is not an active demand for off grades, which usually sell at 1@3c per pound less. For extracted a steady demand exists for the best grades at 6½@7c, but for sour or off flavors there is practically no sale.

R. A. Burnett & Co.

Cincinnati, Dec. 29.—There is no demand for honey at the present time, on account of the holidays. However, prospects for the coming year are bright, and we are looking forward to a revival of trade about Jan. 15. The price of comb honey remains firm: we quote fancy white at 15@16½ cents. Extracted: amber in barrels at 5@6½c, according to the quality; fancy white in 60-lb. cans at 7½@8c; amber in cans at 6@7c, (The above are our selling prices of honey.)

We are paying 30c per pound delivered here for choice yellow beeswax.

The Fred W. Muth Co.

Toledo, Oct. 17—The honey market remains firm, with good demand, and prices the same as last quotations. Fancy white comb brings 15c; No. 1, 14c; fancy amber, 13c; buckwheat, 13c. Extracted, white clover, in barrels, 6¼@6½c; amber, in barrels, 5@5¼c; in cans, 1c to 1½c higher. Beeswax in good demand, 26c cash, 28c trade.

Griggs Bros.

Indianapolis, Dec. 15.—There is a tendency for higher prices on best grades of honey. The demand for strictly fancy white comb honey exceeds the supply. Demand for lower grades of comb honey not good. Numerous shipments of honey arriving, but no one producer seems to have very great quantities to offer. I quote fancy white at 15@16c; No. 1 in poor demand at 12c, and amber dull at 10c. Best grade extracted brings 8@9c in 60-lb. cans; amber slow at 6c. Beeswax, 30@33c.

Walter S. Pouder.

New York, Jan. 10.—Comb honey pretty well cleaned up and there is still a fair demand. We quote fancy white at 14@15c; No. 1, at 13c; amber, at 12c; buckwheat, at 10@11c. Extracted in fair demand, especially California, with abundance of supply. We quote white at 6½@7c; light amber, 6@6¼c; amber, 5½@5¾c; buckwheat, 5½@6c; Southern, in barrels, not much demand, and rather hard to sell, at from 50@60 cents per gallon, according to quality.

Beeswax firm and steady at 30c per pound.

Hildreth & Segelken.

Denver, Nov. 11.—No. 1 white comb honey, per case of 24 sections, $3.35; No. 1 light amber, $3.00; No. 2, $2 50@3.00. Extracted honey, 6¾@7 cts. per pound. Supply is light and we coud make quick sales of consignments at above figures. We pay 24c for clean, yellow beeswax delivered here.

The Colo. Honey-Producers' Assn.

Cincinnati, Jan. 8. — The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5¼@5½c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c.

C. H. W. Weber.

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Manufactured by Chas. A. Cyphers, and sold at his factory prices. Freight rates from Toledo will save you money. Do not be humbugged into buying a cheap machine. The best is none too good. Our illustrated Catalog free to any address. Ask for it.

GRIGGS BROS.
521 Monroe Street, TOLEDO, OHIO.

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FANCY WHITE EXTRACTED HONEY

CRATES 2-60 LB. CANS; 8c
TWO OR MORE CRATES; 7¾
LARGER LOTS; WRITE FOR SPECIAL PRICES. ALL F. O. B. CINCINNATI. CASH WITH ORDER. SAMPLES 10c. TO PAY POSTAGE.

THE FRED W. MUTH CO.
No. 51 WALNUT STREET, CINCINNATI, OHIO.
SEND FOR CATALOG OF BEE SUPPLIES WITH SPECIAL DISCOUNT.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.,
199 South Water St. Chicago, Ill.

TELEPHONE
Facts for Farmers
Send for free book 80-A. It contains telephone facts that are money-savers Stromberg-Carlson Tel. Mfg. Co., Rochester, N.Y., Chicago, Ill.

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Special Sale on
HIVES AND SECTIONS
Until March 15. Dovetail Hives, 8-frame, 1½-story, 1 25; 10-frame, $1.40; No 1 bee-way Sections, 3 .90; No. 2, $3.40; 24-lb. Shipping-Cases, 13c; Foundation, Smokers, etc., cheap. Send for 24 page Catalog free.

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AMERICAN BEE JOURNAL

46th Year. CHICAGO, ILL., FEB. 1, 1906 No. 5

Apiary of J. E. Johnson, Williamsfield, Ill.
(See page 98.)

Home and Family of J. E. Johnson.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December.

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National Bee-Keepers' Association

Objects of the Association

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

The Honey-Producers' League

(INCORPORATED)

OBJECTS:

1. To create a larger demand for honey through advertising.
2. To publish facts about honey, and counteract misrepresentations of the same.

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1. Any bee-keeper may become a member by paying to the Manager an annual fee of $1.00 for each 20 (or fraction of 20) colonies of bees (spring count) he owns or operates.
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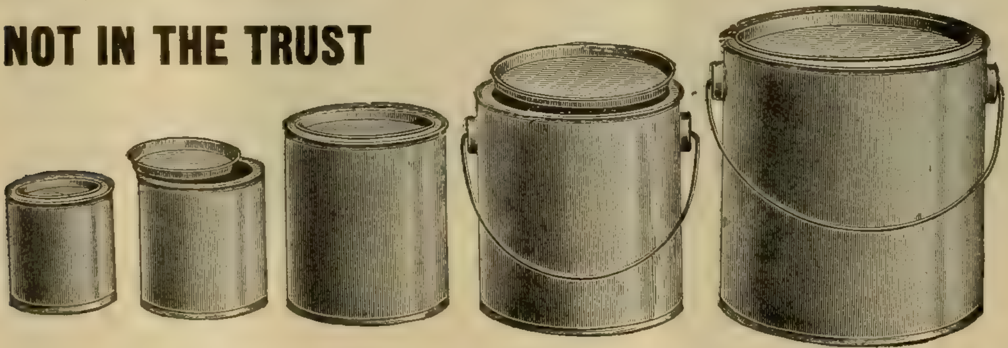

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* * * *

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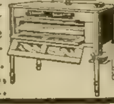

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TESTIMONIALS

We are always greatly pleased to see your new editions of your new catalog of Bee-Keepers' Supplies, etc. We shall certainly make ample mention of it in our paper. You are our best authority in regard to all matters of bee-keeping.
Yours very truly,
C. H. HOWARD, *Editor*,
Farm, Field & Fireside.

Dear Sirs:—The shipment of hives and bee-supplies which you sent me arrived in excellent condition, and every one who has seen them is delighted with the accuracy and precision of the workmanship of every detail, both of the goods and the manner in which the order was executed.
Yours very truly,
Cape Colony. FREDERIC T. BIOLETTI.

I have just now unpacked and examined the goods sent by you, and am greatly pleased with the lot. W. H. GILL.
Scottsville, Ariz.

Gentlemen:—I am well pleased with your prompt way of doing business. The goods are just simply nice. Many thanks. Yours truly,
JOHN D. A. FISHER.

I do not want anything set up, as I would rather set the hives up myself. Besides, it is a pleasure to put Root's hives and fixtures together.
Tiffin, Ohio. JOHN L. FUNK.

Your promptness and square dealing indeed make it a pleasure to do business with you, and I thank you. HARRY H. LARKIN,
Buffalo, N. Y. Care Larkin Co.

My bill of bee-supplies reached its destination in due time. I am under obligations to you for the kindness, for a delay would have been a loss to me. Please accept my thanks.
Treadwell, Tenn. W. W. WATERS, M. D.

I desire to thank you for being so prompt in sending the sections I ordered from you. They came in less time than it takes to tell it.
Kent, Ohio. L. G. REED.

The consignment of bee-material received to-day. Your promptness in filling orders is remarkable, especially when the circumstances are considered. I am very well satisfied with the goods and your dealing. I take pleasure in having introduced "*ROOT'S GOODS*" into this neighborhood.
Fredericksburg, Iowa. REV. WM. ENGLE.

Our Catalog for 1906 is ready. Write for a copy.

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AMERICAN BEE JOURNAL.

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DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

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Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor CHICAGO, ILL., FEBRUARY 1, 1906 Vol. XLVI—No. 5

Editorial Notes and Comments

Keep Hive-Entrances Clear

If your hives are so arranged that there is a space of some 2 inches under the bottom-bars, you are fortunate. If not, it may be worth while to consider a little whether you will not have them so arranged before another winter; and, in the meantime, don't forget occasionally to clean the dead bees out of the entrances and from under the bottom-bars by means of a hooked wire or other implement. The admission of fresh air is important, and, besides, it does bees no good to live over a cemetery.

Caucasian Bees in France

In a previous number of this Journal, commenting upon the conflicting views as to Caucasian bees, it was intimated that a possible explanation might be that more than one kind of Caucasians were in existence. The following letter from the well-known French queen-rearers, Giraud Brothers, is directly in point:

> I am very much interested in your paper. In the American journals there is much said about Caucasian bees; but many do not know that there are two varieties, both very gentle. In the catalog of A. B. Postialko, the two varieties are specified as: *Apis mellifera caucasica aurea* and *Apis mellifera nigra argentea*. In my apiaries I have several of the variety *aurea*. It is a long distance to mail bees from Caucasus to the U. S. A. Like Prof. Benton, we are great admirers of Cyprians, the best honey-gatherers in the world. Mated with Italian or Carniolan drones, these bees are easily manipulated. GIRAUD FRERES.

If anything is to be judged by the names, the *aurea* variety should be somewhat golden, and *nigra argentea* silver and black.

Dealing With Some Queen-Breeders.

We have received the following from a bee-keeper in Montana:

> On page 33, "Pennsylvania" asks, "Do you think that queens that come through the mails are as good as those not caged?"
>
> I, too, have had experience buying queens, and, as far as my experience goes, I can say that I have not found any honest queen-breeders. I hope that I have dealt with the only dishonest ones, and that all the rest are honest. Any one sending for queens is wholly at the mercy of the breeders, and if they are dishonest, and send us anything they like, how are we going to improve our stock unless it be by accident?
>
> I will mention two deals, and would give the names mighty quick, but I think my letter would find the waste-basket if I did:
>
> In June, 1905, I sent for an Adel queen, and wrote with the order, "If you can't fill this order within 5 days return it." In August I got a queen, but the flow had stopped, so I can not say whether she layed "a sitting of eggs" or not.
>
> In April my brother wrote to a fellow in Ohio, with whom he was slightly acquainted, and told him that we would take 6 Carniolan queens. Send him one, and that I would take the other 5. I wrote, "If you can't fill this order by May 10, return it." About May 20 I countermanded my order, and asked for my money. In June I got 5 queens—one old black one didn't survive the trip, the others were Italians and mongrels, and though the nurse-bees were black, those queens never produced a black bee for me. They "fell down" on all the points where the Carniolans are said to excel, unless it be gentleness—there were so few of them that they were quite harmless.
>
> I have just had a letter from my brother. He writes, "My Carniolan was like yours—an Italian, and worthless at that." L. A. SMITH.

We have heard of experiences similar to the above, but that does not prove that all queen breeders are dishonest. It only proves that there are some who do business in a very careless way, and don't care whether or not they give satisfaction to their customers.

But, really, there is no excuse for not returning the money *promptly*, when instructed to do that if unable to send the queens ordered within a specfied number of days.

We trust that the queen breeders who advertise in the American Bee Journal will be very particular about obeying the orders of their customers, and also as to sending out the the kind of queens they advertise. We don't feel called upon to help any dishonest or unbusiness-like queen-breeder or other dealer. Our subscribers must be treated right, or else our advertising columns will be closed to such advertisers who do otherwise.

Some Objects of Some Bee-Papers

It is natural that every bee-paper publisher should strive to secure as many subscribers as possible. The American Bee Journal confesses to such worthy and honorable desire.

It seems to be the effort of at least one leading bee-paper to induce more people to keep bees—to go into the business—and thus produce more honey to put on the market.

Another bee-paper urges more bee-keepers to keep more bees, and thus increase the output of honey annually.

What the American Bee Journal would like to see is this: The name of every bee-keeper now in the land on its list as a regular subscriber. There are perhaps plenty of bee-keepers in existence for the present. Then if all who now have bees would learn to care for them more intelligently, and also develop, so far as possible, their local honey markets, there would be less honey thrown on the city markets, and so the price of honey could the better be kept up.

This would result in greater benefit to all concerned, we believe. But holding out the idea that there is big money in bees for everybody, is hardly the proper thing. It can be overdone. We do not advise all and sundry to keep bees.

American Methods in Europe

While there has been some sneering on the part of bee-keepers on the Eastern Continent as to plans and practices of bee-keepers on this side, there have not been wanting those who have been able to see good in the notions of the Yankees. Prominent among these has been A. Straeuli, pastor in Scherzingen (Thurgau, Switzerland), who has just launched a new bee-paper. His leaning toward American methods is not hidden in the name of his new paper, which is, "Die Europaeische Bienenzucht auf amerikanischer Grundlage"--European Bee-Culture on American Principles.

More Testimony on Caucasian Bees

The testimony so far leads to the conviction that there must be no little difference in Caucasians. In the American Bee-Keeper, that highly esteemed Canadian veteran, J. B. Hall, testifies that he obtained 2 colonies of Caucasians in May, 1904; that they were the gentlest bees he ever possessed, and the best winterers if given honey gathered by other bees to winter on. They started queen-cells in very large numbers, and capped their honey with concave instead of convex caps. As he is working for the production of honey, he says:

"I have no use for such blood in my apiaries, and have been weeding it out for the last 22 years."

In the same paper, Julius Hoffman says he imported Caucasians in 1880. They were very gentle, had very prolific queens, did little or no work on buckwheat, but he says "they are a very good bee for clover sections."

Both Fair and Independent

A bee-supply manufacturer asked a friend of ours why it was that the American Bee Journal published directions for home-made hives and other supplies, when the publishers of a certain other bee paper so adroitly avoided allowing such matter to appear in their columns.

Well, it is easily answered. The American Bee Journal is both fair and independent. It believes in allowing its subscribers and advertisers a fair chance in its columns; and, further, it is not run in the interest of its own bee-supply factory, for it hasn't any, and never has had one. Neither does it weaken the force of a contributor's published ideas by adding a footnote or comment, but allows each writer's opinions to stand upon their merits. We have been complimented on this latter practise of ours.

But it takes all kinds of bee-papers to suit all kinds of bee-keepers, so we have no quarrel with any of our contemporaries—not even with the ones that misrepresent us.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

The Premiums we offer are all well worth working for. Look at them in this copy of the American Bee Journal.

Miscellaneous News ✣ Items

Convention Postponed.—The annual meeting of the Fillmore County Bee-Keepers' Association, which was to have been held at Preston, Minn., Jan. 17 and 18, has been postponed on account of the stormy weather, until Thursday and Friday, Feb. 8 and 9, at the same place. The same program will be carried out.

Copies of State Foul Brood Laws.—The State of Minnesota is about to prepare a Foul Brood Bill to be presented at the next session of the Legislature. The bee-keepers' committee in charge of it desires to have a copy of the foul brood law now in force in every State from which to prepare their own bill. Will those who are able to do so, kindly send a copy of such foul brood law to Wm. Russell, 4810, 38th Ave. S., Minneapolis, Minn. He will greatly appreciate the kindess, and at the same time those who will be kind enough to comply with this request will be aiding their fellow bee-keepers in Minnesota.

A. G. Woodman, of Grand Rapids, Mich., sent us a clipping referring to Henry Decker, an aged Ohio bee-keeper, who claims to have hatched hen's-eggs over a colony of bees. It is the same old story that has been going the rounds of the newspaper press for several years. This subject was discussed in the American Bee Journal a year or two ago, and it was finally decided that it is not a practical thing at all. It may work occasionally, but can not be depended upon. The best way is to get an incubator if you want to do anything in the poultry business. There are some good incubators advertised in this Journal. It is not a sure thing to depend upon a colony of bees to do the hatching.

Death of Mrs. S. T. Pettit.—We have received the following from Mr. Morley Pettit, telling of the death of his mother:

VILLA NOVA, ONT, Jan. 20, 1906.

DEAR FRIEND YORK:—I have to report the death of my mother, who slept peacefully away just at midnight Monday, Jan. 15. She had been ailing for a long time, and was confined to her bed almost constantly for over 6 months, during which time she suffered a great deal, but *so* patiently.

Of course, a person has only one mother, and feels that loss more keenly than any other; but all who knew her agree she was one of the most beautiful Christian characters ever met. Father is very, very lonely; the tie of over 50 years' close companionship and love is not easily broken.

Mother was in her 74th year, and father is in his 77th.

Of the family, 6 of us were at her bedside; 2 in California and a sister in South Africa were unable to get home. I am the youngest, and there were 10 children originally—6 girls and 4 boys.

Yours truly,
MORLEY PETTIT.

Our sympathy is extended to the bereaved husband and family. A good mother—who can estimate her value and influence in the world? Her children can never get beyond her teachings and life.

Home and Apiary of J. E. Johnson.—Mr. Johnson has kindly furnished the following description of the pictures shown on the first page this week:

EDITOR YORK:—The second picture shows myself, wife, two daughters, and two little sons. The other daughter snapped the camera, so she is not in the picture.

The other picture shows our dwelling and honey-house, and all of the apiary but one row of hives.

Our house was paid for with the proceeds of 12 colonies of bees and ½ acre of strawberries for two years, with about $150 to spare, besides increasing from 12 to 66 colonies of bees. But, of course, those were good seasons. The season of 1905 was a poor one for honey here.

I find strawberries very profitable, and go well with bees, except that it keeps me jumping when swarming and strawberry picking come together.

I have sold as high as $18.75 worth of strawberries from one day's picking. I hire the neighbors' children to help pick berries, and pay them by the quart. I also pay my own children the same price. I have no trouble to sell the berries, as I make a trip 5 or 6 miles with a buggy or spring-wagon load every afternoon when the berries are at their best. In this way I get lots of direct customers for berries, and I am able to furnish many of them with honey. My fruit-business helps me sell honey.

I also have a pear orchard, which is yielding well. I have 1100 pear-trees ranging from 3 to 7 years old. The Kieffer and Tyson trees bore abundantly the past year. The April freeze killed nearly all the blossoms on the Duchess, Wilder and Anjou pear-trees, so I got only a few from those varieties. I am still master of the blight situation.

A large pear-orchard helps the bees, as they blossom about 5 days earlier than the apple, and, by the way, the bees hum among the blossoms. I think the pear yields at least as well, if not better, than the apple.

My apiary at present contains 74 colonies—12 colonies in the cellar and the rest on the summer stands.

J. E. JOHNSON.

Mr. Johnson is one of the most successful bee-keepers in Illinois. He is also a frequent contributor to current bee-literature, and has opinions of his own, as well as a nice little family, evidently.

He has quite a number of businesses, which seem to combine in a way to keep himself and all his family employed. And, judging from the foregoing, none, aside from the bees, seem to be "working for nothing and boarding themselves."

* * *

Place to Be Robbed.—Petit Almanach des Abeilles gives the following as one of the signs at the entrance of a restaurant: "If you want good honey, don't go elsewhere to be robbed; enter here."

Contributed Special Articles

Wintering Bees on Solid Sealed Combs

BY J. L. BYER

A NICE position to be in, truly! Either keep quiet after being cornered by *figures*, or else in attempting to squirm out of the trap run the risk of making our genial Dr. Miller confess that "he did not know as much as he thought he did." Not a fair shake, Doctor. And before going any farther you must pledge yourself not to make any such manifestly absurd confession.

As to Mr. Dadant and myself trying to look good-natured over the matter, why, Doctor, it would be a libel to insinuate that it was possible to look or *feel* otherwise when debating any question with so courteous an opponent as Mr. D."

Of course, I had the best of Mr. Dadant, in that he failed to "produce the goods." He and the Doctor simply gave the "why and wherefore," while I can trot out actual experience of at least two of the most practical apiarists in Ontario to back up my position.

Dr. Miller has laid down a proposition something like this:

"*Resolved*, That bees in sealing cells leave about ¼ of an inch between adjoining combs; further,

"*Resolved*, That not sufficient bees can congregate in so small a space to keep one another warm. Therefore,

"*Resolved*, That all bees thus congregated during protracted cold weather will *die*."

I am reminded of the story of a good old Scotch Presbyterian, who, at a business meeting, said something like this:

"*Resolved*, That the people of God shall inherit the earth. Be it further

"*Resolved*, That we are the people."

But we are not told that he produced evidence in defense of his proposition; and just so Dr. Miller has not given evidence to substantiate his claims.

I am free to confess that previous to this discussion I had not gone to the trouble to question *why* bees have wintered so well on solid sealed combs, being quite content in feeling assured that they did winter well in that condition. However, for Dr. Miller's benefit, I will go into details a little.

In the first place, only the ordinary space is left between the frames and bottom-boards, and, on examination, I find that the bees are not utilizing that to any extent. I use unspaced hanging frames, 1½-inch spacing, but when giving solid combs of honey in the fall I space them wider apart, crowding them together early in the spring again. I suppose the Doctor will see the solution of the mystery in this confession; but hold hard!

When I used to feed solid with sugar syrup the combs were left with the ordinary 1½-inch spacing, and, further, Mr. McEvoy uses a self-spacing rabbet, so it will be impossible for him to practice wide spacing; yet his bees don't die during cold spells of weather—on the contrary, they always come through the winter *warm* enough to pile up a great big surplus of honey.

While at the Ontario convention last November, I was talking to Mr. J. B. Hall again on this subject. Let me repeat a practical illustration he gave me there:

During the extraordinary cold winter of 1903-04, at one of Mr. Hall's yards he had quite a heavy loss—I forget just the percentage, but believe it was about 20 out of the 100 colonies there. Twenty of these colonies were wintered on solid sealed combs of the same size as Mr. Dadant uses. *Not one* of these 20 died, but, with the exception of 1 queenless, all were by all odds better in condition when the honey-flow came on than were those that survived after being wintered under "*natural*" conditions. As to how Mr. Hall spaces his combs I am not positive, but as he is very exact and particular, I have no doubt that he uses the orthodox 1⅜ spacing. As to Mr. Dadant and myself "talking about two rather different things," I don't see it in that light. Mr. D. made the unqualified statement that "a colony will not winter well on combs that are entirely filled," saying nothing as to conditions.

One can hardly conceive of a colony filling all of the combs of the hive solid with honey, and wintering; from the fact that such a condition would be well-nigh impossible with a queen in the hive. I remember once of a strong colony being hived on a full set of combs during a heavy honey-flow; by some means the queen was lost and every comb was in this case filled solid. It is needless to say they did not winter; there were no bees left when the owner found the condition of affairs in October.

If the Doctor will pardon the suggestion, I will say that possibly he is made to think that the bees would die between the combs, from the well-known fact that a few isolated bees to one side of the cluster always perish. With the contracted hive the spaces are filled from one end of the hive to the other, and from division-board to the side of the hive—an entirely different condition of affairs.

In conclusion, as in the case of my reply to Mr. Dadant, I would ask Dr. Miller to test the matter, and then if he finds we are wrong, I, for one, will crawl off in the corner and attribute to "locality" the different results obtained here in Ontario.

Markham, Ont.

Time of Cellaring Bees

BY F. L. DAY

IN one of Dr. Miller's "Straws," in the Jan. 1st Gleanings, he mentions putting his bees into the cellar Nov. 29. That was the very day I put mine in, here in northern Minnesota. As a rule, I should expect to get them in earlier, but this time circumstances were not favorable for so doing.

In the first place, I use a combined stand and bottom-board, which I do not carry into the cellar. This makes it necessary to wait for a temperature as low as 15 to 20 degrees above zero. Even then it is necessary to confine the bees, for I have to move them about 25 rods to the cellar in a gravel hill-side. When a morning comes, which promises to be cold enough to suit me I go out about 6 a. m. to raise up each hive-body from its bottom-board. I put inch blocks under the two front corners. In over one-half of the hives I find the bees clustered right down on these bottom-boards, but the cold draft soon drives them up into the hive.

Then about 8 o'clock I begin to move them. I place an extra hive-stand beside a hive, with a large gunny-sack laid on top. Then I raise the hive to be moved and place it on the sack. Next I tie the sack about the hive with a cord having a heavy piece of elastic in the middle. This generally keeps the bees in.

Other years I used a common wheelbarrow, and took only one hive at a time. But this time there was a foot of snow, which made it necessary to use a horse and light sled, taking 3 hives at a trip. This was easier than the wheelbarrow, but seemed to rouse up the bees just the same.

Of 30 hives put into the cellar, 29 were heavy with stores and strong in bees, to judge by the roar. The other one seemed light in both.

It is interesting in this connection to note that all the 29 strong colonies had young queens of the past season's rearing, while the one weak colony had at the last examination a clipped queen of the previous season. My queens live only one year, as a rule. In 4 years I have had but one that lived 2 years, and the result was not satisfactory in that case. The first season her colony gave me 210 pounds of extracted honey; the second season only 65 pounds. This was about the poorest colony yield of that second season. My queens are either lost at swarming-time or superseded soon after. This gives a good chance to requeen from the best stock, which I have been doing the past season, and hope to reap returns next year.

My bee-cellar, as now enlarged, is 16 feet long, 6 wide, and 6½ feet deep—just room for two rows of hives with a space in the middle. There are 2 pieces of 2x6 inch stuff for each row of hives to rest on. These are set edgewise about 11 inches apart, and fastened firmly together by cross-pieces. They are also blocked up 2 inches from the ground. There is room for 10 hives in each row, so that by putting in 3 or 4 tiers there would be room for 60 to 80 hives.

The cellar has a board roof just above ground. On this, after the bees are put in, I place a good layer of forest leaves, and then a load of wheat-straw. There is a trap-door for ventilation. I put several gunny-sacks over the opening, and a few sacks filled with leaves on top. I have a thermometer hanging down by a string so that I can ascertain the temperature at any time. I can usually keep it within a range of 5 degrees all winter. So far this winter (Jan. 10) there has been only 1 degree's variation. It has been either 42 or 43 degrees all the time. This cellar cost $10 besides my own labor.

Other years my bees have had sugar syrup almost entirely for winter stores, and have come through finely. This winter they have nearly all honey. It remains to be seen if they will winter as well as formerly.

Detroit City, Minn.

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Work in the Apiary for February

BY C. P. DADANT

THERE is less work in the apiary during this and the previous month than in any other month of the year. Now is the time for the apiarist to prepare for another season by getting the hives, sections, etc., ready for summer use. If all goes well we should be prepared for a honey harvest when it comes. The apiarist is usually a farmer or a gardener, or fruit-grower, and he is kept busy with his different lines at the time when the bees store honey. Therefore, he will succeed best if he can save time during the winter.

A good sunny basement, with plenty of light, is an ideal place to nail hives or sections. The more prosperous apiarists will have a heated room in some part of their house where they can do all the work, including folding sections and fastening the comb foundation. Painting hives is also a good thing to attend to at this time. Old hives that are accidentally unoccupied by bees should be overhauled.

In painting hives, especially old ones, attention should be paid mainly to the corners and joints, as they are most apt to rot. The careless painter should be told what the good housekeeper tells a careless housemaid, "Clean the corners, and the middles will take care of themselves." So we will say to the hive painter, "Paint the angles and the joints, the middles will take care of themselves," for we paint hives fully as much to make them last as to make them look nice.

Good roofs, for sheltering the hives against the sun and rain, are made very cheaply from old dry goods boxes, which you may be able to secure from the general store in your town. A fair size dry goods box will make six flat roofs. If you have artistic taste, these roofs may be made ornamental. But if you are working for profit without regard to the esthetic, a flat roof will be sufficient to secure the hive against the inclemencies of the weather, the soaking of the rains and the drying and warping action of the hot summer sun.

A hive sheltered with the very roughest of roofs will last twice as long as one which is only painted and left to withstand the irregularities of the Siberian winters and African summers that are so often the portion of our so-called temperate countries.

The bees will need attention only if the weather becomes mild. A warm, sunny day, when the thermometer rises to 60 in the shade, is quite a boon to the bees, especially if the ground is free from snow. On such a day we must make sure that nothing will prevent or disturb their flight. If the hive-entrance should be clogged with dead bees they should be removed.

But, on the other hand, during the cold weather we must be very sure that nothing arouses our bees. Cattle or sheep in the bee-yard will disturb them from time to time. When the hive is jarred some of the bees leave the cluster to ascertain the cause of the disturbance, and they are often chilled before they can return. Thus the colony will slowly dwindle, and when spring comes it is too weak to recuperate.

So far (Jan. 10) we have had the finest winter that I have ever seen, and if it continues the bees will winter finely. But February is yet to come, and it is probably the most treacherous month in the year. Hamilton, Ill.

Convention Proceedings

Report of the Ontario Convention

[Continued from page 84.]

PRODUCTION OF COMB HONEY

In the production of comb honey colonies must be strong in *bees and brood* at the beginning of clover bloom. As soon as the first blossoms appear put on one super of clean or new sections *filled* with *thin super foundation* and with separators. As soon as this is about half filled, if well covered with bees, put another super under the first; when these are about filled, and prospects are still good for some days, put a third super on top of these. When well started in this last super, the first two will likely be ready to take off, after which, if prospects are good for a continued flow, put another under; if likely to close before both are finished, and bees need room, put it on top. Should there still be prospects of continued flow from clover or basswood, continue as before—put a third on top. I do not think it advisable to put more than 3 supers on at any one time.

Thus far it is assumed that bees have not swarmed. Where they swarm—and usually 50 to 75 percent will do so in producing comb honey—hive them, 2 and sometimes more, swarms together on 4 drawn combs or full sheets of foundation; fill up the balance of the hive with dummies on the old stand, first putting the supers from the old hive on the new, with a queen-excluder under. Turn the old hive around and set it a little way back. In the evening turn it around and set it along side the swarm on the right hand side. If increase is desired, move to a new stand the sixth day, and they will seldom swarm again during the season. In about 3 weeks examine them to see if they have a laying queen; if so, and quite strong in bees, and prospects are good for a fall flow, give them an extracting super with 4 or 5 combs; fill up the super with dummies, and they will, if the season is good, give quite a little surplus. Give the queen room below for brood.

Where increase is not desired, in about 2 weeks after the swarms are hived, fill up the hives with bees and brood from colonies that have swarmed within 7 days, first cutting out all queen-cells. If there are still more colonies than you want, double up by shaking off all the bees from any number of colonies into one with a young laying queen, until they are *strong* in bees. You can then give them a super of sections or extracting combs, as you wish. Place the remaining combs of brood and honey in extracting supers over the colonies weakest in bees you have in the yard; the young bees hatching will strengthen them, and any honey stored in them, or already in, will come good for feeding in fall or spring.

As soon as all, or nearly all, the sections in each super are capped they should be removed from the hive, by raising up and putting a board with a bee-escape under for a few hours—not more than about 12 hours—when most of the bees will have gone out. The supers should then be carried into a room with one window, to which any remaining bees will fly, when the window may be opened and the bees will return to their homes. Any bits of comb on the bottom of the supers should be scraped off.

Now as to the care of comb honey: The supers should be piled up as high as convenient, say about 15 high, outside on the ground, with an empty super under. Place in a dish on top a few table spoonfuls of bisulphide of carbon. Cover up tight for about 12 hours, and it will be safe from any damage from the wax-moth.

The honey should then be carried into a *warm*, *dry* room and piled so the air can circulate through it for 2 or 3 weeks, or until you are ready to clean it up and pack for market.

R. Lowey.

OUT-APIARIES AND THEIR MANAGEMENT.

In dealing with this question it might be considered by a great many bee-keepers as one in which they had little interest, as such a small percentage of those who keep bees ever manage out-yards. However, I think if we look a little closer into the matter we will find that it is of more or less importance in bee-keeping.

Only in rare instances do we find persons who are fortunate enough to have a locality, a strain of bees, or some superior system of management, which enables them to keep a sufficient number of colonies in one yard to allow them to be classed as specialists in bee-keeping, or large producers of honey. Bee-keepers who are almost solely depending upon their honey crop as their source of income, are desirous that their crop should be of such proportions as to furnish them ample funds for a comfortable living, and find that under ordinary conditions such a quantity of honey cannot be produced in one apiary alone. By distributing our colonies in yards away from our home-yard we are enabled to allow our bees a much larger area to gather nectar from without their having to travel great distances. By doing this we can keep a large number of colonies, devote all our time and study to this one work, be a specialist in this particular line, be always looking for better things in management, production, and marketing of honey, etc., and we are accomplishing for the bee-keeping world something which cannot be overlooked. Besides, we are turning into a sole occupation a profitable and pleasant work, which in a great many instances is regarded as a mere side-line.

From what I can learn from observation and otherwise, the fewer number of colonies kept in a given area the better the results secured. Taking this as a basis, we will have to determine to our own satisfaction what is going to be the limit of the number of colonies kept in one yard, according to our own management and locality. Speaking out of my own experience, I would suggest 100 good colonies in the spring, which might be increased to 150 during the season. To increase those numbers would mean that you reduce the yield per colony, increase the desire to swarm, and have a larger amount of bees and brood to sustain on the nectar of the field covered. To reduce the number means you reduce the income on some investments, viz., cost of establishing the yard, cost of maintaining the yard, attendance, etc.

In establishing out-apiaries the first consideration should be locality. The area to be covered by the bees should furnish ample forage without traveling territory covered by bees from other yards, which would place it about 3 miles from any other large yard. See that the territory has some honey-and-pollen yielding trees and shrubs for spring stimulating, as well as a full quota of basswood, clover, and perhaps a little buckwheat. A locality can best be judged after a practical test of two seasons, as sometimes a half mile materially affects the yield secured.

Next locate the site for the yard, which is an all-important matter. If possible choose a sheltered spot if bees are to be wintered there outdoors, and have it shady if you desire trees. I prefer no live trees, but set out a half dozen tufty cedars by standing them in tiles set in the ground. You will see on your arrival in an instant if any swarms have clustered. One of our most satisfactory sites was in the center of a pasture-field about 15 rods from the highway.

A good, tight house, bee-proof and dry, is a necessity, of course, but as out-apiaries are not permanent institutions we can do very well with any means of shelter for supers, empty hives, extracting outfit, etc., that sheds rain and storm. A small tent can be made of cheap cotton to extract in, if the building does not exclude robber-bees, when the season arrives, for undoubtedly you will have considerable extracting to do after the main honey-flow is over, if you are an out-yard man. Another advantage the cotton tent has, it gets very warm with the rays of the sun, and honey that is very thick can be easily extracted in cool weather.

We like a good house at our own yards, where we can store the honey when it is extracted until we have time to remove it to the railway station. This saves handling, especially when we are busy; but if such is not available the honey can be taken home in 60-pound tins as it is extracted, and can be strained from the extractor after taking it home.

For wintering, if you do not wish to put the bees in cellars or repositories they can be successfully wintered outdoors, packed in suitable cases with 4 or 6 inches of good packing around the hives. Set the cases about 8 inches above the ground, and protect the yard with a tight fence on the west and north sides 6 feet high to break the force of the wind and keep out the snow.

We now come to the most important question of all, "managing the bees." In the fall and spring we find the bee-keeper (aided by what he can prepare during the winter months) is quite capable of attending to several apiaries, but when it comes to the busy summer season, when the bees swarm and gather honey, you will have to decide which plan of the many ways and means suits your individual tastes, your locality, and perhaps hives. Any plan that can be successfully applied to any yard can be applied to an out-yard.

Only, thoroughness is more essential in your work at the out-yard than at the home yard, because the out-yard will be, for a great part of the time, without any attention, and many little things might get the benefit of your watchfulness at home that the out-yard will not receive. The work must also be done systematically and seasonably, not putting off till to-morrow what you can do to-day.

Denis Nolan.

Mr. Saunders said he did not count on a shady or sheltered place for the bees. The wind would keep the bees in when they ought not to fly.

Mr. Deadman said when hoops of barrels are well driven, nails should be put behind them to keep them from sliding. As to wind, he preferred the bees sheltered and shaded. If the wind happens to blow the way the hives face, it does no good in keeping the bees in.

Mr. Holtermann considered shade a very important consideration in the prevention of swarming. As to barrels, one should get good barrels which have not been weather-beaten. Have cooper-tools and attend to them properly. With his inside strainer in the extractor the extracted strained honey runs through a rubber-hose directly into the barrel. Mr. Holtermann can, and does, manage with very little swarming, by using large hives, plenty of room, and ventilation in the super.

Mr. Sibbald—Glucose barrels when emptied are steamed inside to get out the last bit of glucose. This melts off the original wax and makes it advisable to wax them inside before filling with honey, to prevent the staves taking up honey.

Mr. McEvoy—When the barrels have not been steamed inside they are all right, but otherwise they should be waxed inside and painted outside.

Mr. Holtermann—Leakage is intensified by change of weather.

Mr. Pettit related his experience by which he learned to cooper barrels. They should be thoroughly dried, and the hoops driven with a good steel driver and 4-pound hammer. If the staves do not come well together at the ends loosen the hoops and flag the cracks with flags or even cotton cloth, then drive the hoops again. After the barrels have ben filled and left in a hot room a week or so, drive the hoops again. If they should persist in leaking between the staves, tamp them by driving a hard cord into the crack with a suitable tamping iron.

Mr. Saunders—To prevent swarming equalize brood, then when the swarming impulse starts take out three combs of brood, putting in two frames of foundation and one comb. In the fall I generally find these two-thirds filled with honey.

Mr. Holtermann—I don't succeed in having foundation put in in this way, filled with brood.

Mr. Pettit—Take them early and put in only one frame of foundation at a time.

Mr. Alpaugh—Add foundation at the outsides, but put drawn combs in the center.

Mr. Nolan—For winter packing use leaves. Try to prevent swarming with super-room and ventilation. Remove some brood as soon as cell-cups are started. Remove larval brood, not hatching brood.

Mr. Holtermann—As colonies come up to full strength draw brood from full colonies and give to the next strongest—not to the weakest. When all are built up don't make a whole lot of nuclei, but build up by degrees.

Mr. Byer—Add an extra brood-chamber to the strong ones.

Mr. Hershiser recommended what Mr. Holtermann had said at Niagara Falls. He would go further and take frames of eggs from weak colonies and give to the medium.

Mr. Holtermann—Increase the super-room until the hive equals the strength of the colony, holding the colony together till it reaches that point where the death-rate and birth-rate are equal. I favor not extracting until the end of the season.

Mr. Dickenson thinks the second super should be taken off as soon as it is ready.

Mr. Armstrong—It is a good point to let them alone till the end of the season, then extract.

Mr. Lowey—I should leave the honey with the bees till it will "hair."

Mr. Bowen has not much trouble with swarming, running for extracted honey. He has a complete break between fruit-bloom and white clover.

(The End).

Southern ✢ Beedom ✢

Conducted by Louis H. Scholl, New Braunfels, Tex.

Be Careful With Dead Colonies

That warning of R. F. Holtermann, on page 861, is a timely one. He calls attention to the care of dead colonies in the spring on account of the dangers of foul brood. As it may not have been heeded, I should call special attention to this matter, especially in "Southern Beedom." Fortunately, the Southern States have had very little trouble with the dreaded disease, *Bacillus alvei*, or commonly called foul brood. For many years the majority of the bee-keepers of Texas did not even pay any attention to articles on any such subject as foul brood, foul brood eradication, and foul brood laws. Recently, however, a number of very severe cases have made their appearance at different points, and the bee-keepers have been awakened. Foul brood received more attention, and protection from it was resorted to. A foul brood law for Texas was obtained, and put to work. As the disease has not spread to any extent, it can be controlled if properly taken in hand. The utmost care should be practiced by the bee-keepers, however, to keep it from spreading, and to prevent any further introduction into other localities.

In this connection our hints on taking care of dead colonies should be heeded. Especially the inexperienced or careless bee-keeper may not know the cause from which colonies died, or dead colonies may be left unnoticed in any apiary. These may be robbed out by other colonies in the neighborhood. If diseased with foul brood it is then carried to these, and thus the disease spreads. I know from my experience as foul brood inspector that just such things exist sometimes. Out of an apiary of 32 colonies at one place, 28 were diseased with foul brood, and 24 of these were dead. They remained in the yard in this latter condition throughout the whole season, and were robbed out by other colonies. Is it a wonder, then, that foul brood is a dreaded scourge, especially since it takes only a single germ or a spore to infect a whole apiary, or the whole neighborhood?

Bee-keepers, if you are interested, first, in the welfare of your little workers, and, second, to the extent of having them make your "bread and butter," why don't you wake up and do your duty? Foul brood is to be dreaded in the least, and should not be tolerated. Texas has a foul brood law, and if the bee-keepers do their part foul brood can be exterminated. The other States in the South should fall in line—the bee-keepers of these should do their part also.

Why I Do Not Advocate Feeding Honey and Exchanging Honey-Combs

In previous articles the feeding of sugar syrup or sugar candy only has been given, no mention being made of feeding honey, or syrup made of honey, or of exchanging combs of honey from strong colonies to weaker or needy ones. My reason for this—and a reason I make a strong one—is that of the danger of spreading bee-diseases. In the hands of the experienced apiarist there may be little danger in this respect, still it is at a great risk if practiced even by the experienced sometimes. For the novice, or the careless, I would not advocate it. Several cases have come under my observation in recent years that have caused me to denounce the practice, *unless a person is absolutely certain that there is no danger*.

In an apiary of an experienced bee-keeper the majority of colonies needed feeding, and were fed by giving combs of honey from the supers of several stronger ones. Later it was discovered that one of these latter had foul brood—from where, is not known to this day. Any way, the result was that the disease broke out in about 20 of the others that had been fed honey from the foul-broody colony.

In another, honey was bought and syrup made from it was used for feeding. Foul brood broke out so violently the next season, and the apiary being for the time in the hands of incompetent help, the whole number of colonies in it had to be burned later. It is dangerous, therefore, to use honey from an unknown source, and by using a high grade of granulated sugar this danger is overcome.

Our ✢ Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

A Canadian Sister's Report for 1905

On page 730 (1905) mention was made of the success of Miss Trevorrow, as reported in the Canadian Bee Journal, with the request that Editor Craig would give us a little more light on the subject. This he has kindly done in the following:

Owing to our visit to Meadowvale being somewhat hurried, we missed much information that we would like to have had regarding Miss Trevorrow's management of her bees, but which we hope she will favor this Journal with in the near future. We regret to learn that just at present it is necessary for her to undergo a course of treatment for rheumatism at the Dr. Walters' Sanitarium, from where she kindly sends us the following in reply to Miss Wilson's enquiry:

"Mr. Editor:—When I read the comment, in the American Bee Journal's latest issue, upon the reference you had made to my bee-keeping in the Canadian Bee Journal, it struck me as possible that you might not be possessed of the needed information to reply satisfactorily to the interested enquiries of our American sister. I, therefore, submit the following data, trusting that it may be of use to you in granting her reasonable request:

"I had 33 colonies of bees last spring, all in good condition. From these I extracted 4400 pounds of white honey, and about 300 pounds of dark honey. (We have no very dark honey in this vicinity.) I had 90 sections of No. 1 comb honey, and about the same number partly-filled. I have not made a success of comb honey yet.

"I might state here, in anticipation of a very pertinent question in regard to fall feeding, that I fed 817 pounds of sugar this fall, the number of colonies having increased to 49; and also state in regard to locality that when this yard consisted of 5 first-class colonies they yielded 928 pounds of extracted honey, and increased the number of colonies to 15. Other apiaries are from 3 to 5 miles distant."

M. B. Trevorrow.

Feeding Bees in Winter—Getting Queens to Laying After Swarming

My bees have not been profitable for several years, and I want to ask your advice about a scheme I have thought of. In this country they fly many, many days—sometimes for a week, or even two, continuously, during the winter—when it is warm enough for them to be out. I judge from my reading that this takes much more food than in a climate where they stay quietly all winter. I fear, as this winter has been so far unusually mild, and there is of course nothing for them to gather, that perhaps they don't have enough. Is it wise to feed during the winter? If so, how?

Each February I made a gallon of syrup at a time and put in a shallow zinc pan in the sun. On this I put a thin board full of holes a quarter of an inch wide, the board large enough to float on the syrup and come almost to the edge of the pan. They used it up very speedily. It was at quite a distance from the hives, so they all used it together. As far as I can judge, it worked all right. Please tell me if there is a better way.

My sole dependence for honey here is alfalfa. We are greatly troubled with grasshoppers that eat off the bloom, but I have always had some beautiful honey from the first crop which blooms from the 1st to the middle of May. My bees then are about ready to swarm, so I get only a part of which I might otherwise have. I have tried destroying queen-cells to delay swarming, but not very successfully. Could I hurry things up by stimulative feeding so that swarming would be *over* by May 1? Our springs are not very early. Fruit-bloom comes from April 1 to the middle—sometimes not until the last, because though we have warm, almost summer days, we are apt to have a late frost even up to May 1, and there is nothing else for them to build up on. If you think it practical to take them through swarming so that I may take advantage of this first alfalfa crop by feeding them, will you kindly submit a plan for me? and would you advise me trying it on all my 12 colonies, or only a few of them?

Another difficulty seems to be in the getting to work of the young queens *after* swarming. For 3 years I have had to buy some new queens in July, finding that though work seems to start well, suddenly the queen disappears. Have you any solution to offer for that difficulty? I shall be very grateful for your answers, which I know from experience will be helpful. (Miss) Helen Perry.

Englewood, Kan., Jan. 5.

No, it is not wise to feed during winter, but it is better than to let the bees starve. Your plan of feeding was doing for the bees the very thing you wished to avoid, as it was stimulating them to flying and brood-rearing.

If bees must be fed during winter it is better to give them all they will need at one time, and it is better to feed on or in the hive. As you have weather warm enough for them to take the feed in the open, there ought to be no trouble in getting them to take it in a Miller feeder, or any other feeder that may be preferred.

Whether anything can be done to hurry up swarming depends. You say fruit blooms in April. If there is an utter dearth before fruit-bloom, or between fruit-bloom and alfalfa, and at the same time the weather is favorable for daily flight, then feed given almost any way, every day or every other day, may make quite a difference in the time of swarming.

Another thing you can do: Two or three weeks before you would like to have them swarm, take frames of sealed brood from the weaker ones and give to the stronger, thus making them so populous that they will swarm earlier. In this way you can at least get part of them to swarm earlier. If they still fail to swarm early enough to suit you, you can take matters into your own hands by shaking swarms; that is, taking away all brood from the colony and giving it empty combs, foundation or starters.

Even if you let the bees alone, and they swarm when alfalfa is on, you can still manage so you will have a fair yield. When the bees swarm set the swarm on the old stand. Place the old colony close beside it. In a week put the old colony on a new stand, and that will throw all the flying force into the swarm, and from that you will get your surplus honey.

The disappearance of young queens after swarming is probably due to loss during the wedding flight. There is nothing to do about it except to help the queens locate their own hives. Trees, vines, even a fence-post, will help them mark their own home.

Mr. Hasty's Afterthoughts

OUR TOIL DOTH SWEETEN OTHERS

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Preventing Honey Granulating by Heating.

As to the scheme to prevent granulation by heating extracted honey in the solar wax-extractor, my first thought is that honey that I have seen come out of the solar has always been pretty black and strong. It is possible, however, that clean, good honey, *perfectly free from beeswax*, might not be harmed by the treatment. Ought not to take a great while to find out. Pretty certain that contact with melted beeswax is a bad thing, whether it does all the mischief or not. Page 877.

No Bee-Book a Bee-Keeper's Bible.

All right to read Bible—and a bee-book, if the reader does not get them mixed. I fear we have no bee-book yet quite entitled to stand as Bee-Keeper's Bible. Glad to feel that we have several that can "file a claim." Page 879.

Honey Absent from Hotel Tables.

I think most of us will share the surprise of Prof. Cook, to find that in England, Ireland, Scotland, France, Belgium, Holland and Germany almost no hotels set honey before the guest, not even when he asks for it. All samee we'uns! 'Spects the cause is the same on both sides of the pond. Retail price has been kept out of the reach of common folks; and the habit of common folks has become in this case the habit of all. But no plan to remedy things by going back along that line will give universal satisfaction. Some of the brethren will kick pretty lively at Prof. Cook's proposed prices; but nevertheless I guess he is right. No kick from me. I sell a large share of my (not very large) crops direct to consumers, and let them have best extracted at 7 cents and best comb for 14. And when the brethren try to buy me clean out and put a stop to it I won't let 'em. As a result, people in my locality eat honey.

That only one person in Britain relies wholly on bee-products for support will be a still greater surprise, I imagine. Page 880.

To Cellar or Not to Cellar Bees.

Curved is the line of beauty; straight is the line of duty—and 40 degrees is the line of keep your bees out of the cellar. I think C. P. Dadant has located said line about as well as it can be located. Page 880.

Some Experimental Programs—Longevity of Bees.

Also our professors seem to range themselves in the two classes of Has-dones and Is-doings. Prof. Scholl, of Texas, seems to threaten taking the place of chief of the Is-doings. Has an experimental program of 10 items, and 6 more up his sleeve. Somehow, I take special interest in the effort to determine comparative length of life as lived by the 6 or 7 different kinds of bees now "on the carpet." Not so important as some things; but it strikes me as likely to result in something definite and settled. Too often our investigations result merely in a chronic difference of opinion. This one will also if we "—Don't—Watch—Out." I take it that Prof. Scholl is quite capable of watching out, and hardly needs my reminders. Besides the things he *mentions*, it is in the highest degree necessary that two races tested side and side should be *in equal degrees of activity*; and this is best attained by a good honey-flow. To illustrate what I mean, if we test the life-terms of Italians beside blacks in August, when the honey-flow is very poor, but not *entirely* lacking, we may catch the Italians in nearly an average state of activity, and the blacks in a semi-dormant condition. The result of this would be that the blacks would live very much the longer just then, and the conclusions drawn from the experiment would be enormously false. Page 882.

LANGSTROTH HIVES AND OTHERS.

Calling all frame hives after Langstroth (as Mr. Doolittle seems to suggest on page 881) has pretty good logic to support it, and is no more than justice to our grand old man—but, but, Language has laws of its own which mostly will conquer and enforce themselves in the end. The terms "Langstroth frame" and "Langstroth hive" are pretty well settled already, and are very unlikely to be changed much. Our multitudinous frame-hives seem to range themselves mostly in three families—the Langstroths (which are intermediate in character), the square-frame hives, and the shallow-frame hives. If we make room for a fourth family it will probably be the "barns"—hives with extra-big frames, and plenty of them, but not altogether square.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Barrels for Honey

A little discussion on honey-barrels at the Ontario Bee-Keepers' Convention last November suggested to me the idea that some of the Canadian readers and others would be interested in my experience. The kind almost universally used in this country are emptied glucose barrels, obtained from biscuit and confectionery factories. They are made of comparatively soft wood, and contain from 600 to 700 pounds. The confectioners drain them, and sometimes steam them out to get the last bit of contents, then store them in basement, shed, or yard, ready for the buyer who gets them at a comparatively low price, and assumes most of the responsibility for their care.

If storage is to be had at home, it is best to get them there as soon as possible, and have them ready early for the honey season. Bung plugs can be got at any well-ordered planing mill at a merely nominal price. No one can afford to make these with a pocket-knife while there are turning-lathes in the land.

Plug the bungs tightly to keep out dust, and see that the barrel is in every other way ready for the honey. First plug the air-hole which the factory-man made with a chisel to let the glucose run freely from the bung. Be sure there is not more than one air-hole, because if you do not find all leaks before the honey is in the barrel you will afterward.

Now for tightening the hoops. Having set the barrel on end, remove the first hoop, and make it smooth inside by flattening back with a hammer the points which were set into the stave with a punch. I find a hoop that is smooth inside is easy to drive, and never slips back enough to bother. Replace this hoop and fix the others the same in succession.

For driving hoops we use a steel driver with straight handle 10 inches long. It is made to fit the edge of a hoop and hardened there, but just soft enough on the upper end so a steel hammer will not batter it. The hammer weighs 3½ pounds. An ordinary carpenter's hammer is entirely too light for the job. I always wear a leather glove on the left hand that holds the driver, then hammer the hoops till they fairly "sing." I have never bursted a hoop yet, but *have* done a great deal towards stopping leaks. Sometimes by rough handling of empties, staves get cracked across the middle; a double thickness of cotton with a piece of tin well tacked over such will remove danger of leakage.

Barrels for honey should be as dry as possible, for instead of taking moisture from the honey the staves give up moisture to the honey and shrink, if possible. They should therefore be stored in a dry place, and the hoops well driven. I remember hearing N. E. France say once that there was always a racket in his store-rooms on rainy days—the boys were driving hoops on the barrels. On this account the hoops should be tested a few days after the barrels are filled. I have had hoops that were tight before filling drive a half inch or more. This is always worse where the barrels have been left out in the weather. It is very injurious to them to get wet. The staves swell, and, being held by the iron hoops, something has to give so the cell-structure of the wood is crushed and the elasticity is gone out of it. It is very hard, after that, to keep them from leaking.

I had all kinds of trouble with barrels like that last summer. They had been left out in the weather a great deal, and it seemed impossible to stop their leaking. The trouble was next to the heads. I could not draw the ends of the staves together till I hit upon a plan which, no doubt, a cooper would have known beforehand. I drove the hoops tight to see which cracks would not come together, marked those, loosened up the hoops, and put dried flags, and sometimes cotton rags, in those cracks; then drove the hoops tight. Where barrels persisted in leaking, a hard cord was driven into the crack with a hammer and blunt chisel.

In my estimation, barrels of honey should be kept by the producer in as hot and dry a place as they are likely to get into after they leave his hands, and hoops all tested with heavy hammer just before shipping, unless the honey is granulated.

Various Weather Conditions in Canada

We notice the revival in the American Bee Journal of the department entitled "Canadian Beedom." This time it is being conducted by our friend from Villa Nova, who is, by the way, I believe, the only "M.P." in our ranks. In a recent issue we find some complaint as to weather conditions this fall in Ontario; no chance for bees to have a cleansing flight before going into the cellar, etc. Surmise that friend P——— took his bees into the cellar a few days too soon if his locality was anything like in York County during the last few days of November, when bees here had a thorough flight. Since then the weather has been quite mild most of the time, and the bees have had more flights. These are possibly conducive to best wintering. However, the chances are that they will be kept pretty quiet for the next two months.—YORK COUNTY BEE-KEEPER.

[Weather here, and, we presume, at Villa Nova, while fine and mild for the season, has not been warm enough for anything like a general flight. This old Ontario does give a great variety of climate. We have had scarcely any snow here so far this winter. Fifteen miles north they are having good sleighing.—EDITOR.]—Canadian Bee Journal.

Thanks, Mr. Y. C. B.-K. Of course, we should not overlook the Hon. Nelson Monteith, *M. P. P.*, bee-keeper, fruit-grower, and Minister of Agriculture, though he has been a member for a comparatively short time, whereas the Villa Nova man has borne the title for about 30 years.

As to weather, the last few days have broken all records, I think. Saturday, Sunday and Monday, Jan. 20, 21, 22, the temperature ranged between 50 and 58 degrees, Fahr., with south breeze and sunshine. The outdoor winterers are having their innings this year.

Prejudice Against Bees on Alfalfa

"York County Bee-Keeper," speaking of the cattlemen's prejudice in Nevada against bees working on their alfalfa, says, "Happily, at present anyway, we have nothing to fear in Ontario from prejudice of this kind."

Don't be too sure, Mr. "York County Bee-Keeper." I could take you to a neighborhood in Norfolk county where neighbors told a woman she would lose 200 bushels from her yield of buckwheat by having bees work on it. When the buckwheat was ripening, however, she was satisfied with her crop.

The prejudice against bees on some crops which they actually benefit is alarming, and shows a wide field for mission work by Farmers' Institute speakers.

Shallow vs. Deep Supers

Wm. L. Cooper, in the Canadian Bee Journal, speaking of shallow *vs.* deep supers, says in defense of the former:

The deep super is far the best for general purposes, but the other has its uses, and I claim for it the following advantages:

1. It is best for a weak colony in a rapid flow.
2. It is best for any colony in a very light flow.
3. It is most useful to induce bees to work in sections.
4. It is good to use in spring when a colony has about filled the lower story with brood and honey. If a full super be given at this time the strain of keeping the double story warm at nights is very severe.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Making Increase—Queen-Excluders and Comb Honey—Fastening Full Sheets of Foundation in Sections

Our main flow here is from buckwheat, and is very short, often lasting but a few days. I have some bees in 8-frame Gallup hives, and want to make all the increase I can up to the time buckwheat comes into bloom (about Aug. 1), and put the increase into dovetail hives, but leave the original colonies in the Gallup hives, to save the expense of buying so many hives, then turn the whole force to storing buckwheat honey, having all full colonies by Aug. 1.

1. What would be your plan for making the increase?

2. Is it necessary to use queen-excluders with dovetailed hives in producing comb honey (I run for comb honey exclusively)? Would you use bound, unbound, or wood-and-zinc?

3. What is your method of fastening full sheets all around in the sections? I have had some trouble with them coming loose when fastened only at the top with a Parker fastener, and using bottom starters. Pennsylvania.

Answers.—1. It isn't easy to say what will be the best plan of increase for you. One's previous plans and experiences have much to do with it. If your increase up to this date has been entirely by natural swarming, that may be the best now. But in that case try to get your surplus honey chiefly from the swarms. Remember that 50,000 bees in one hive will store more than 2 colonies of 25,000 each. So when a colony swarms, put the swarm on the old stand, and set the old colony as close as you can beside it. Then a week later move the old colony to a new stand some distance away. That will make the swarm a rouser, and it will do fine work for you if there is anything to be done. The old colony will do little or nothing in supers, but having a young queen it ought to be a fine colony for the ensuing season. You will see that will leave all the old colonies in the Gallup hives, and the swarms in the new kind. If you do not want to wait for natural swarms, you can practise shaking swarms. That is, set an empty hive on the old stand and shake bees into it, leaving just enough bees in the old hive to keep the brood from chilling, setting it on a new stand and letting it rear a queen; although it will be much better to give it a queen or a ripe queen-cell.

2. I wouldn't use excluders for comb honey.

3. At our house we use the Daisy fastener, which has a hot metal plate. That melts the edge of the foundation, fastening it more securely than by mere pressure, and the work is a good deal easier.

Feeding Bees in Early Spring

I have 65 colonies of bees which I think I will have to feed in the spring. I think of putting a piece of muslin over the frames and an oilcloth and the cover over it, and then raise the oilcloth and cover when pouring the syrup over the muslin, and cover up again. I can feed them in a short time in this way.

The syrup will be made of half honey and sugar-water. Will this daub the bees up too much? When the muslin is on the hives a few days there will be little holes in it so the syrup will run through quite freely. Will it hurt the bees any to have the syrup run on them and be daubed up somewhat with it. Wisconsin.

Answer.—It depends upon how early in the spring you operate. If after it is warm enough for bees to fly freely it will be all right; the bees will clean each other if they get daubed; but if you attempt it at a time when too cool for bees to be on the move, it would be likely to do more harm than good.

Reports and Experiences

Good Season For Bees

One year ago I put 117 colonies into winter quarters. I lost one last spring with paralysis. They did not increase any the past season. I obtained 12,000 pounds of honey, over one-half of it comb honey in one-pound sections, and the balance extracted. It is about all sold at prices ranging from 13 to 15 cents. I have sold about $1200 worth.

Bees are in good condition for winter, and heavy with honey. B. W. Peck.

Dorset, Ohio, Dec. 30, 1905.

Bees Did Poorly in 1905

Bees did poorly last year. We started in the spring with 24 colonies; had one swarm, and got about 500 pounds of extracted honey. They were so weak this fall that we doubled them down to 16 colonies. Nearly half of the bees throughout the surrounding country are already dead. We have had good weather this winter; no snow, and the ground is dry and dusty—poor prospect for clover.

Richard Chinn.

Concord, Neb., Dec. 28, 1905.

Light and Heavy Weight Sections

I have my bees all packed well for winter. Some one stole 3 sections of honey off the hives, as I had 1 super left on last week. It was done while we were out selling honey.

There is quite a good deal written about the weight of section honey. I have many different kinds, some produced with separators and others with no separators. Many sections will weigh 19 or 20 ounces each, while some weigh 14 or 15 ounces. Perhaps 10 out of 28 will weigh 1 pound. My wife and I go out with the horse and buggy and sometimes sell 30 or 40 sections a trip. When selling, I weigh every section, and then those that do not come close to a pound I put with those that weigh over a pound, and in this way a light one and a heavy one will weigh 2 pounds, which I sell for 25 cents; or 1 pound for 13 cents. We sell all our honey around town.

Belmont, N. Y. Geo. Hodges.

Poor Season for Bees

The season of 1905 was rather poor for bees in this part of the State. I got 700 pounds of comb honey from 36 colonies, spring count. The first of the season was cold and wet, then the dry weather cut off the fall flow. I put my bees into a dry cellar under the dwelling house Dec. 1, in medium condition.

I consider the American Bee Journal one of the best of its kind of literature. I read it with pleasure and profit every week.

John Cline.

Darlington, Wis., Dec. 15, 1905.

Sweet Clover Honey

I have been watching various statements by different people regarding sweet clover; some do not think that it yields well. Nevertheless, I got about 20 pounds per colony from it, and neighbor bee-keepers averaged about the same this year, and it left our bees in very good shape for winter.

The reason we happened to have such a plenty of sweet clover is because some one planted it along the banks of the Grand river, and the river distributed the seed everywhere.

Well, as to taste of honey. Some have said it was poor and thin, and had a peculiar flavor; also an odd smell of its own. That is all true, but the trouble is that that honey was extracted too soon. One of my neighbors had a little of that kind of experience this year; he got the odd flavor and the smell, while another neighbor farther away, and myself, left our honey on the hives some weeks longer than our friend did, and got A No. 1 honey, clear and heavy, with a first class taste to it, and no smell whatever.

Another thing about this plant is, it furnishes supplies for the bees until it is almost too cold for them to fly, where cattle get at it and keep it eaten down somewhat.

Preston, Ont., Jan. 2. W. D. Harris.

Foote's Swarm-Hiving Box

I want to thank Mr. Hasty for his criticism of my "Swarm-Taking Box and Pole" (page 883). But he (rather Hasty-ly, I think) jumps at a conclusion and lands on the wrong side of the fence when he votes the "whole scheme a failure and a nuisance." After repeated trials I have decided that "that style of doings" is a complete success. He is very decidedly still on the wrong side of the fence when he intimates that I "waste time hiving a *part* of a swarm." I have not kept bees, with very good success, for 20 years to be satisfied without securing the "whole thing." But I see that I will have to reverse the order of things and make a short story long in order for himself and "some of the brethren" to understand how I manage the affair.

In the first place, I have a slim, light pole about 18 feet long, to the top of which a strong iron hook is securely fastened to operate as a shaker. When a swarm first begins to cluster, and I think it is necessary to use this pole, I hang it on the limb close to the cluster, then get the swarm-catcher, stand the pole under the cluster, steady it with one hand, run the box to the top and fasten it there by winding the cord around the bracket at the bottom. Then, with the other hand, I take hold of the "shaker" and shake the bees from the limb into the box. If a few persist in going back to the limb, I repeat the shaking until all of them cluster in, or on, the

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box, when they are easily lowered to the ground and carried to the hive.

I don't take a spade, dig a hole in the ground and set the pole "stationary" as I would a fence-post, but handle as described above. A. F. FOOTE.
Riceville, Iowa, Jan. 1.

Retailing Honey

I would report a fairly successful year with the bees, and tender my thanks to the American Bee Journal for its valuable assistance.

I wish to urge the pushing of the matter of advancing the price of retailed comb honey. I know from experience that 25 cents per section is as easily obtained as 15 cents, provided, of course, that the honey is first-class. My second-grade honey, which weighs 12 to 14 ounces, and is fully as good as the average "farmer's honey," sells harder at 20 cents than the first-grade at 25 cents. I began years ago to sell at 20 cents, and so speak from experience.

But don't forget the matter of *quality*. Three times I have bought decent-looking "farmer's honey" when short myself, but in every case I was obliged to take the honey back and refund the money, and so I shall never try it again. It is not a fair price, but a poor article, that makes a good customer kick.

Every 25-cent section bears this stamp: "Byfield." And the guarantee is followed up to the *limit*; any defect being good for the money back on sight; but so far it has never happened with honey from my own hives.

I wish we could hear again from the correspondent who advanced the theory of the more rapid flight of black drones. I have reason to believe there may be something in it.
GEORGE W. ADAMS.
Rowley, Mass., Jan. 12.

Light and Heavy Weight Sections

The honey crop was rather disappointing last season in Prowers and Bent counties; in fact, the poorest I am told for the past 17 years. The maximum returns were about 40 to 50 pounds per colony. The largest returns came from apiaries worked for extracted and comb honey. JOHN S. SEMMENS.
Lamar, Colo., Dec. 30, 1905.

Two Queens in a Hive

Dr. Bohrer, of Kansas, reported the case of two queens in the hive at the same time. I bought a fine queen in 1902, that I used as a breeder. As I was getting brood from her last July, I found a capped queen-cell, so I kept watch of them. They lived together, each laying eggs. I still think they are together, for I looked to-day (Nov. 19), and found them both together; yet if they winter together I shall take the old queen out next spring and give her a nucleus to breed from. She has not had any wings in three years, as the bees gnawed them off, so she is easily known. J. G. GOODNER.
Big Springs, Tenn.

Thinks This Journal Necessary

I am going out of the bee-business and so will not need the American Bee Journal any longer. But I will send you a new subscriber in my place. The Journal has been a great help to me, and I think it a necessary companion to all interested in the bee-business.
Ridge Farm, Ill. ISAAC VAUGHT.

A Valuable Kink in Wiring

That little kink of wiring frames, given by Adrian Getaz, will more than pay for the price of the American Bee Journal for 1906. Please find money order enclosed for $1.00 to extend my subscription. F. JAY LEWIS.
Oak Park, Calif.

Rain in Southern California

We have had a nice rain. Prospects are very bright for the honey crop in San Diego county this year. G. F. MERRIAM & SON.
San Marcos, Calif.

Bees All Alive in January

My 112 colonies of bees all showed up alive to-day. All but a very few colonies flew strongly and long. The general look and appearance is also hopeful. E. E. HASTY.
Toledo, Ohio, Jan. 20.

Honey in California, Etc.

EDITOR YORK:—For many years I have read the writings of Prof. Cook in the columns of the American Bee Journal, and felt very much disappointed on my recent visit to Southern California not to be able to see him at his home. He was absent, as he was in Europe at the time. However, I met many bee-keepers in that lovely land of fruit and flowers, where the roses are in bloom all the year around, and the bees could be seen in vast numbers in the pepper-trees towards the middle of December. At this same time of the year the people could be seen before sunrise in the mornings sitting in the parks reading the papers.

There was one thing which Prof. Cook's article, on page 880 (1905), brought out very forcibly. That was the absence of honey on the tables in England, Ireland, Scotland, France,

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T. F. BINGHAM Farwell, Mich.

OTISVILLE, PA., Jan. 18, 1904.
Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

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Belgium, Holland, and Germany. Now, sir, while this undoubtedly is true across the water, yet the same state of affairs exists right in Southern California, for during my stay in Los Angeles, Orange, Riverside, San Bernardino, Pasadena, and along the Coast, I did not see even a taste of honey on any of the tables, and only saw it in two grocery windows in Los Angeles. Why is it so? Let some one who knows please solve the problem. Perhaps the people in Europe are all sweet enough without having to eat honey!

Lest I should be considered an intruder on your valuable space, I would better call a halt for this time, as you know an uninvited guest sits on thorns. But, sir, invited or uninvited, I regretted very much not to be able to call on the Editor of the American Bee Journal when passing through Chicago.

While I am at it, I must congratulate you on having secured the services of that brilliant young Canadian, Mr. Morley Pettit, to conduct "Canadian Beedom;" and also the excellent portrait and poem of the late Father Langstroth. W. J. BROWN.

Chard, Ont., Dec. 23, 1905.

Bee-Keeping in Missouri

The honey crop the past year was rather poor in this locality. Too much rain I think was the cause. There was plenty of bloom, but little or no nectar.

The people of this State are just beginning to wake up to the fact that we have a "bonanza" in the products of the "little bee." All that is wanting is to know how to handle them with profit and pleasure.

The Bulletin lately issued by the Missouri State Board of Agriculture, prepared by Mr. R. A. Holekamp, will aid materially in awakening an interest in this now almost neglected industry.

I have been a reader of the American Bee Journal for about 5 years, and I find much valuable information in each issue; in fact, it always contains just such information as every bee-keeper, in addition to the bee-books, needs, and just at the right time.

H. A. SCHOPPENHORST.

Marthasville, Mo., Dec. 18, 1905.

Salt for Curing Bee-Paralysis

Can bee-paralysis be cured? Certainly!

First, kill off all old queens. Then send to some reliable breeder and get a breeding queen. Use the natural or scientific method and requeen with strong, healthy queens. Place two frames of drone-comb in the center of brood-nest where the breeding queen is, so you will have large, strong drones.

Second, take out all frames from each colony, one at a time. Fill the bottom of the hive ⅛ inch deep with fine table-salt; re adjust the frames and sprinkle salt down between the frames on the bees. Cover the top box of the frames with salt. When the heat from the bees melts the salt and the wood absorbs the brine, repeat this treatment. Cover the entrance and alighting-board with salt. Cleanse the ground in front of every hive and burn the dead bees. Cleanse the horse-trough, cover the slop-barrels, fill up the hog-wallows, and furnish fresh water for the bees near the apiary. Get some rotten wood and soak it in brine; take it out of the brine and let it dry in the sunshine. Then use it for smoker-fuel.

"Iowa" (page 862), don't put camphor in the hive. Try this old fogy's remedy and report the result. It costs but 5 cents to try it.

The salt on the entrance will kill the bee-moth eggs, and is certain death to the wax-moth when placed on top of the frames. If this remedy will help you, I am amply paid.

Vanduser, Mo. W. JOHNSON.

CONVENTION NOTICES.

Washington.—The annual meeting of the Washington State Bee-Keepers' Association will be held in the old M. E. Church, on Third Street, North Yakima, Wash, Feb. 14, 15 and 16, 1906 An interesting program is assured. One feature will be the illustrated lectures on bee-keeping. Let all bee-keepers in different parts of the State attend and make this an interesting and valuable convention.

VIRGIL SIRES, *Sec.*

Wisconsin.—The Wisconsin State Bee-Keepers' Association will meet in annual convention at the Capitol, Madison, Feb. 6 and 7. An interesting program is being prepared. Several bee keepers of prominence are preparing papers on subjects of special and general interest, which will be discussed. The Question-Box will, however, be the main feature. One and one-third rate round-trip on all Wisconsin railroads. GUS DITTMER, *Sec.*

Augusta, Wis.

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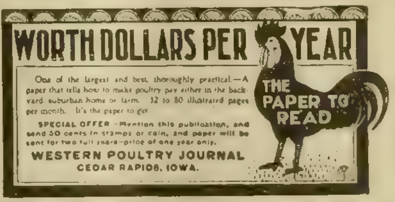

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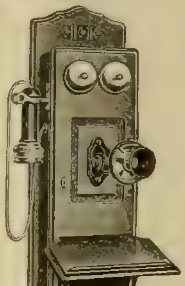

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Tells just how each part from the case to the most important part is made; illustrates the various parts and shows by a very practical and complete description and explanation the duty and requirements of each; tells why we make them with such care, and exposes the secrets of the construction of cheap telephones; shows why they can be sold cheap, and why they should never be used on farm lines. It shows why Stromberg-Carlson telephones will outwear any other farm telephone made and how we produce an instrument that practically will never get out of order. Cheap telephones are invariably out of service just when you want them most; they quickly lose their talking qualities and are a constant source of annoyance and expense, simply because they are not made right. The principle of operation is just the same in a cheap telephone as in a good one —the difference all lies in the construction, the better materials used, and the greater care and skill employed in the making. We would like to have you read this book. Simply drop us a postal card asking for 80 G, "How the Telephone Helps the Farmer," and we will send it to you by return mail. Do it today before it slips your mind.

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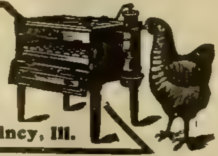

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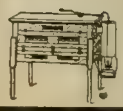

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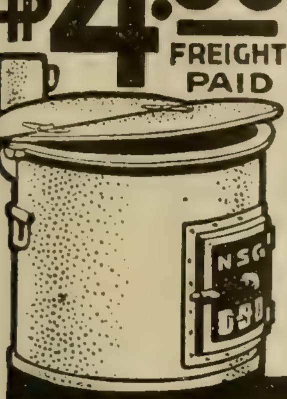

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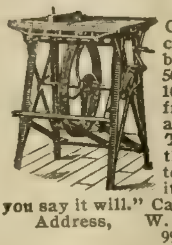

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No 10
May. June. July, August 1905.
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IN 60-POUND CANS

We have a good supply of **Pure Alfalfa HONEY** in 60-pound cans that we can ship by return freight at these prices: 2 cans, boxed, at 8½ cents a pound; 4 or more cans at one time, 8 cents a pound—all f.o.b. Chicago. Cash with order. Sample, by mail, 8 in stamps, to cover package and postage.

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For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI OHIO

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

Chicago, Jan. 8.—The market is steady with about the usual demand; the prices range from 14@15c for best grades of white comb honey. There is not an active demand for off grades, which usually sell at 1@3c per pound less. For extracted a steady demand exists for the best grades at 6½@7c, but for sour or off flavors there is practically no sale.
R. A. Burnett & Co.

Toledo, Oct. 17—The honey market remains firm, with good demand, and prices the same as last quotations. Fancy white comb brings 15c; No. 1, 14c; fancy amber, 13c; buckwheat, 13c. Extracted, white clover, in barrels, 6¼@6½c; amber, in barrels, 5@5¼c; in cans, 1c to 1½c higher. Beeswax in good demand, 26c cash, 28c trade.
Griggs Bros.

Indianapolis, Dec. 15.—There is a tendency for higher prices on best grades of honey. The demand for strictly fancy white comb honey exceeds the supply. Demand for lower grades of comb honey not good. Numerous shipments of honey arriving, but no one producer seems to have very great quantities to offer. I quote fancy white at 15@16c; No. 1 in poor demand at 12c, and amber dull at 10c. Best grade extracted brings 8@9c in 60-lb. cans; amber slow at 6c. Beeswax, 30@33c.
Walter S. Pouder.

Denver, Nov. 11.—No. 1 white comb honey, per case of 24 sections, $3.35; No. 1 light amber, $3.00; No. 2, $2.50@3.00. Extracted honey, 6¾@7 cts. per pound. Supply is light and we coud make quick sales of consignments at above figures. We pay 24c for clean, yellow beeswax delivered here.
The Colo. Honey-Producers' Assn.

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Hildreth & Segelken.

Cincinnati, Jan. 20.—The honey market is quiet. We do not offer white clover extracted honey on account of its scarcity; instead offer a fancy water-white honey, equal to if not better than the white clover, in 60-lb. cans, two in a crate, at 7¼@8½c; fancy light amber, 7½c; other grades of amber in barrels at 5¼@6¾c, according to the quality. Fancy comb honey, 16½c.

(Bee-keepers, please observe the above are our selling prices of honey, not what we are paying.)

Beeswax, 30c, delivered here, for the choice, bright yellow grade.
The Fred W. Muth Co.

Kansas City, Jan. 22.—The market here on honey is very dull now, as it always is this time of year; fancy white is selling at $3.00 per case; 24-section and amber is selling at $2.75. Extracted, 5½@6c. Beeswax, 25c per pound.
C. C. Clemons & Co.

Cincinnati, Jan. 23. — The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5¼@5½c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c.
C. H. W. Weber.

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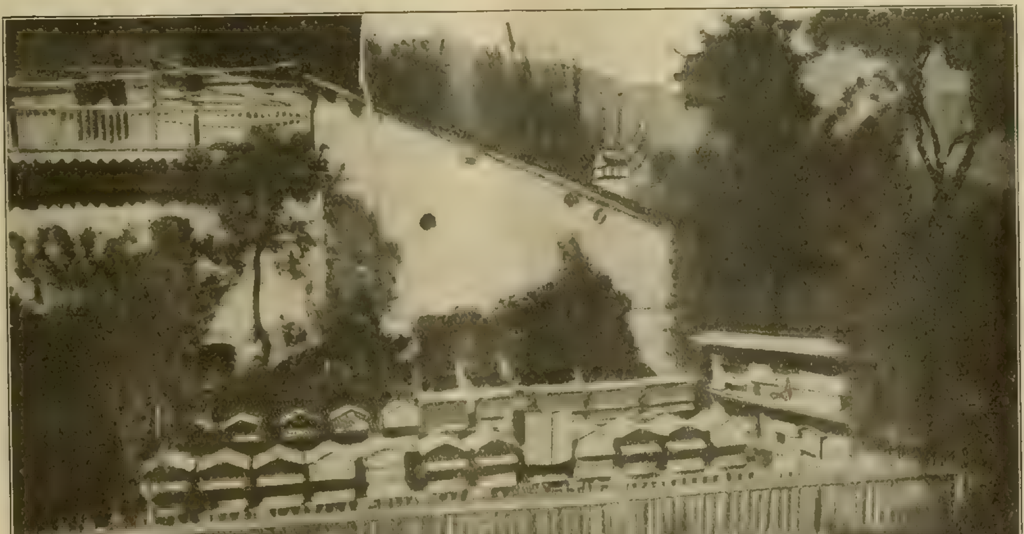
AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., FEB. 8, 1906 No. 6

Gathering a Swarm from Mr. Mont-Jovet's Alpine Apiary.

Opening a Dadant Hive in Mr. Mont-Jovet's Alpine Apiary.



Apiary of Dadant Hives belonging to Mr. Mont-Jovet, in the Alps; altitude, 3300 feet. (See page 118.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

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3d.—To enforce laws against the adulteration of honey.

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(INCORPORATED)

OBJECTS:

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2. To publish facts about honey, and counteract misrepresentations of the same.

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2. Any honey-dealer, bee-supply dealer, bee-supply manufacturer, bee-paper publisher, or any other firm or individual, may become a member on the annual payment of a fee of $10, increased by one-fifth of one (1) percent of his or its capital used in the allied interests of bee-keeping.

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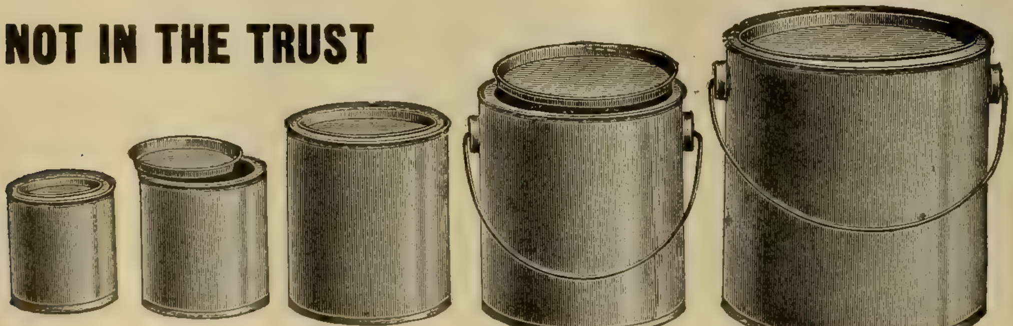

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Mention Bee Journal when writing.

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Discount for January is 6 Percent.

TESTIMONIALS

We are always greatly pleased to see your new editions of your new catalog of Bee-Keepers' Supplies, etc. We shall certainly make ample mention of it in our paper. You are our best authority in regard to all matters of bee-keeping.

Yours very truly,
C. H. Howard, *Editor*,
Farm, Field & Fireside.

Dear Sirs:—The shipment of hives and bee-supplies which you sent me arrived in excellent condition, and every one who has seen them is delighted with the accuracy and precision of the workmanship of every detail, both of the goods and the manner in which the order was executed.

Yours very truly,
Cape Colony. Frederic T. Bioletti.

I have just now unpacked and examined the goods sent by you, and am greatly pleased with the lot. W. H. Gill.
Scottsville, Ariz.

Gentlemen:—I am well pleased with your prompt way of doing business. The goods are just simply nice. Many thanks. Yours truly,
John D. A. Fisher.

I do not want anything set up, as I would rather set the hives up myself. Besides, it is a pleasure to put Root's hives and fixtures together.
Tiffin, Ohio. John L. Funk.

Your promptness and square dealing indeed make it a pleasure to do business with you, and I thank you. Harry H. Larkin,
Buffalo, N. Y. Care Larkin Co.

My bill of bee-supplies reached its destination in due time. I am under obligations to you for the kindness, for a delay would have been a loss to me. Please accept my thanks.
Treadwell, Tenn. W. W. Waters, M. D.

I desire to thank you for being so prompt in sending the sections I ordered from you. They came in less time than it takes to tell it.
Kent, Ohio. L. G. Reed.

The consignment of bee-material received to-day. Your promptness in filling orders is remarkable, especially when the circumstances are considered. I am very well satisfied with the goods and your dealing. I take pleasure in having introduced "*ROOT'S GOODS*" into this neighborhood.
Fredericksburg, Iowa. Rev. Wm. Engle.

Our Catalog for 1906 is ready. Write for a copy.

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AMERICAN BEE JOURNAL.

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DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

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Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor CHICAGO, ILL., FEBRUARY 8, 1906 Vol. XLVI—No. 6

Editorial Notes and Comments

Repetition of Good Advice

Good advice can hardly be repeated too often. The winter is the time to read over again the bee-papers of the preceding year. In the hurry of the busy season many good things that appeared in the bee-papers were likely overlooked. But now is just the time to get the papers together and go over them carefully. It will pay to do so.

Some bee-keepers we have heard of say they haven't time to read bee-papers. Then they haven't time to keep bees, either. One doesn't need to spend more than say two hours a week in reading the American Bee Journal. There are probably very few who read *all* of any one paper whenever it comes. But if an hour or two is spent on each copy, the best and most helpful of its contents can be gleaned.

The great trouble with many is, they haven't learned to do thoroughly what they undertake. They do things by halves, or do only half of several things. It won't do to read a good bee-paper in a half-hearted or listless way, if one expects to profit by the reading. We are inclined to think that the reason some do not value a good bee-paper is because they don't read it carefully, and then profit by what they have learned. Simply subscribing for the paper will not add any honey to your crop. But by painstaking reading, and careful application of the instruction gained, there may result a surprising increase in both profit and pleasure from the bees.

Inbreeding Among Bees

Continued inbreeding has been blamed for the "running out" of many an apiary—and rightly. On the other hand, some of the most noted achievements in the way of improvement of stock have been made by means of that same inbreeding. Do not be too much alarmed about inbreeding, if you always breed from the best; but do not be surprised at deterioration if the selection is left to the bees.

Alfalfa Hay and Honey in Colorado

Irrigation gives the agricultural products of Colorado for 1905 as $46,990,000. A little more than a third of this is for hay. As a large part of the hay is from alfalfa, it does not seem strange that Colorado should produce quite a bit of alfalfa honey.

"Advanced Bee Culture," by W. Z. Hutchinson

A new edition of this work has appeared, so much enlarged and improved that without any great stretch it might be called a new book. Its author has given in it the results of his own study and experience as a bee-keeper, enriched by many a thought gleaned from his years of editing the Bee-Keepers' Review.

Mr. Hutchinson is an enthusiast in matters pertaining to beautiful typography, and the book shows it. Its 230 pages are printed in clear type upon excellent paper, daintily bound in cloth. Photography is a hobby with Mr. Hutchinson, so it is not at all surprising that the more than 70 illustrations are mostly half-tone engravings from photographs taken by the author himself, and of some of them he may well be proud.

The book is written in Mr. Hutchinson's well-known easy style, and is practical throughout, the author declaring it to have been his purpose to describe in plain and simple language what he believes to be the most advanced methods of managing bees *for profit*, from the beginning of the season throughout the entire year.

Mr. Hutchinson is the arch apostle of "keeping more bees," and so the first chapter starts out with a plea for bee-keeping as a specialty, "dropping all other hampering pursuits, and turning the whole capital, time and energies into bee-keeping."

He was at one time an enthusiastic advocate of the Heddon hive, but now says: "Divisible brood-chamber hives cost consiberably more than any other styles of hives, and after using them for years by the side of the ordinary Langstroth hive, seeing them used by other persons in different locations, and considering the new features that have recently sprung up in bee-keeping, I have gradually come to the decision that if I were now starting in the bee-business, I should not use the horizontally-divisible hive;" and closes the chapter on the choice of a hive by saying, "In brief, my choice of a hive for Michigan is a simple, plain box with plain, all-wood hanging frames—and I would winter the bees in the cellar."

The author favors the use of the Heddon honey-board, and says: "There have been more or less successful attempts to do away with the necessity for a honey-board by using wide, deep top-bars, *accurately spaced;* and while such an arrangement does away with a large share of the bur-comb nuisance, I have yet to see a case in which there was not enough of it left to warrant the use of a honey-board." This sounds a bit strange in view of the fact that so many others have discarded the honey-board, but the preceding paragraph explains it. In that he gives ⅜ of an inch as the space over the tops of the frames, and no matter how accurate the spacing, there will be comb galore built and honey stored in it. Others have reduced that space to ¼ inch, and do not find the honey-board necessary.

As to surplus arrangements for comb honey, he says: "My preference is for a tall, plain, 4-piece section of white poplar, used with fence separators."

The chapter on "The Use and Abuse of Comb Foundation" is especially interesting, from the fact that the author has made a study of this and experimented largely. He thinks that under some circumstances comb foundation may be given in the brood-chamber at a loss in more ways than one.

As to swarming, he says: "The man who is raising comb honey as a *business* will find it to his advantage to allow each colony to swarm once, if it *will* (and no more), then make the most out of the swarm."

There was a time when Mr. Hutchinson might have been said to make a business of exhibiting at Fairs; so he may be said to speak with authority on that subject. The same may be said of the chapter on queen-rearing, and that on foul brood; for he made a business of rearing queens for sale, and he has for some time been inspector of foul brood for the State of Michigan.

The book may be heartily commended as an addition to the libraries of up-to-date bee-keepers. The postpaid price is $1.20; but we club it with the American Bee Journal for a year—both for $2.00. We have a good supply of the books on hand, and so can fill orders by return mail.

L'Apiculture Nouvelle

Mention was lately made of a new bee-paper printed in the German language, with the avowed purpose of advocating bee-keeping according to American methods. Now comes the initial number of L'Apiculture Nouvelle (The New Bee-Culture), printed in the French language, and published in Paris by Emile Bondonneau, the agent of the A. I. Root Co. It is even more strongly American than the German journal mentioned, being made up almost entirely of articles from Gleanings translated into French.

All of which is complimentary to the genius of American bee-keeping; but let us not forget that practise is based upon theory, and without the solid basis built up by patient investigators on the other side of the water, the superstructure of American bee-keeping never could have been reared. So it is only fair that we should pay back to our trans-Atlantic brethren part of the debt we owe them.

Metal-Spaced Hoffman Frames

A modified Hoffman frame (if indeed it can be called a Hoffman after being modified so many times) has been put upon the market. Many have strongly objected to the Hoffman because of the shoulders of the end-bars, which invite the deposition of propolis, and too often split off. Instead of being made as heretofore, 1⅜ inches wide at the upper end, the end-bars are made 1 1-16 inches wide. Then a metal strap bent in the form of the letter U is slipped down over the top-bar, and extends down over the end-bar something like 3 inches. An embossed projection of 5-32 of an inch at the top, and another at the bottom of the strap on each side, serve to space the end-bars 5-16 of an inch apart, making the frames spaced 1⅜ from center to center. This will be accepted as a great improvement by some, while some will think the same end might be attained by the simpler means of staples or nails as spacers.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Miscellaneous News ✣ Items

Bee-Keeping in the Alps.—Mr. C. P. Dadant has very kindly sent us the souvenir postal cards from which the engravings were made that appear on the first page this week. Mr. Mont-Jovet is a breeder of Caucasian queens, and a Dadant-hive bee-keeper. It is interesting to have apiarian scenes from foreign countries. Of course, it would be much nicer if each could personally visit apiaries in foreign countries, but when that can not be done, the next best thing is to have pictures of them. What a wonderful thing photography is, anyway; and also the process of engraving pictures, so that they can be reproduced with the printing press! Surely, we are living in an advanced age; great progress has been made along almost every line, bee-keeping not excepted.

To Illinois Bee-Keepers.—Secretary Jas. A. Stone sends this notice:

> The Secretary has undertaken, through the instructions of the State Bee-Keepers' Association, to send out more than 2800 letters to bee-keepers of the State, and as he runs across the name of one who has paid his dues in the State Association—either direct or through one of the other associations that have joined in a body—he can not leave out such a name, for we desire their report, even if they *have* paid their dues. All who have paid their dues for 1906 are properly credited, and the Secretary positively can not answer the many questions *personally* that come back, asking, "Have you made a mistake?" etc. Those who joined through the other associations will each receive a cloth-bound copy of the Annual Report, the same as those who joined the State Association direct. But if the Secretary is compelled to spend all his time answering useless questions, the Report will not be out before midsummer.
>
> Route 4, Springfield, Ill. JAS. A. STONE, *Sec.*

The Summerland of Florida is where Mr. Wm. A. Selser, of Philadelphia, is spending the winter. Here is what he says about the weather and the bees there:

> Most of your readers do not know that Dade county is the most extreme southern county of Florida, situated on the East Coast, with the Atlantic Ocean on the one side, with the warm Gulf Stream running near its borders, and the Everglades encircling it on the west and south. In whatever direction the wind blows it comes over a warm body of water. The situation is most ideal for a warm, winter climate. In 1890 it was said to the writer that killing frost was unknown, but since that time there have been two or three years when the thermometer was below the freezing point. Last year, or in January, 1905, while I was in Boynton (this county), the thermometer one night sank to 28 degrees. Ice formed in a crust in the water-tub back of the house, and at 2 o'clock that same day I went into the Atlantic Ocean and had a good bath, with the water at 69 degrees—as warm as it often is in Atlantic City during August.
>
> Stuart—where the writer built a little cottage—is one mile from the village on the banks of the St. Lucie river. This river is one of the deepest in the State. It empties into the Ocean at St. Lucie Inlet, and a junction of the Indian river. This is the heart of the pineapple section. Twenty-five percent of all the pineapples of the State are loaded at Stuart station.
>
> This 22d day of January the record thermometer on my porch, in the shade, registers at this moment within one degree of 90, and the bees at my back door are in a perfect roar, bringing in pollen and honey. On Saturday, the 20th, a large swarm came out and flew to the northeast. Its flight was continuous, and was lost sight of in the distance. January is a very good honey-month in this county, if the weather is normal, but the last two years have been poor on account of so much of the prevailing high winds being from the northwest. This year is the most promising for many

years. About Dec. 20 the bees began to bring in a yellow pollen from a variety of little blossoms that did not seem to contain much else. About Jan. 1 the writer noticed the pollen on the bees' baskets turn white, on a close observation. I saw the bees were getting it almost exclusively from pennyroyal, of which there are acres in bloom in all directions, and about Jan. 10 followed a light flow of nectar from the same source. On the 18th a very heavy flow set in. At this time the field-bees were not so strong as they should have been to get the best results, but the hives were fairly full of bees under 15 days old.

I carefully timed one colony, and found 105 bees ladened with nectar enter the hive in 30 seconds. In this time not one bee came out. All my hives are one story, containing 24 frames—Poppleton style, entrance in the center. Placing my ear to a hive, I found it a delight to hear the bees evaporating the honey in every different part of the long hive, a fact quite new to me, as honey seemed to be stored in almost every one of the 24 frames. I notice that the bees here start to whiten the dark combs that have been in use 20 years just about the time they commence on the nectar in the North. Our flow is such that it comes in a rush, not giving much time to observe this practice.

I will close to don my bathing suit for "a dip" in the St. Lucie, 40 feet from my house, the temperature of the water being 74 degrees. WM. A. SELSER.

The Standard Committee of the National Association of the State, Dairy, and Food Deparments will hold a meeting in Chicago, Feb. 19 to Feb. 24, 1906. There will be reduced rates on the railroads on account of the National Dairy and Food Show, which is to be held here the same week. East of Chicago a rate of 1⅓ fare is made, and west of Chicago a rate of 1 fare plus $2. Certificates must be obtained with the ticket to Chicago, and tickets must be validated in Chicago for return.

The afternoon session of Feb. 22, to be held in the Great Northern Hotel, will be devoted to a discussion of the following: "Sugar, glucose, honey, vinegar, and food accessories—baking-powder, yeast, etc." An invitation is extended to any bee-keepers who may desire to attend, and, in case it is impossible to be present, those interested are requested to submit in writing any evidence, facts and arguments they may desire to present to the meeting. For any further information, address E. N. Eaton, State Analyst, 1628 Manhattan Bldg., 315 Dearborn St., Chicago, Ills.

Mr. James A. Stone, Secretary of the Illinois State Bee-Keepers' Association, is not only an extensive bee-keeper, but is a carload raiser of hogs. He brought a car to Chicago during the National convention, last month, and won two cash prizes, amounting to $175. The $100 prize was for the best carload of hogs numbering from 150 to 200. The breed was Berkshire, from spring pigs. The lots that Mr. Stone beat were of Poland, and also mixed hogs.

Honey and hogs seem a strange combination; but if they are not mixed too closely, perhaps the delicious flavor of the former will not be affected by the sometimes peculiar porky odors of the latter. Knowing Mr. Stone as well as we do, we have no fears of his ever becoming "hoggish," no matter how much he has to do with hogs.

Binding Volumes of Bee-Papers.—On this page is an article from R. B. Ross, Jr., telling how to bind volumes of magazines in a way to preserve them in permanent and convenient form. His method is also inexpensive. Almost anybody can follow his directions and do a good job. The details are described so carefully, in addition to the illustrations, that it ought to be an easy matter to bind magazines like the American Bee Journal and others. Mr. Ross says that he has never had papers bound in that way loosen or break away, and that it is the cheapest method he knows of, consistent with good work.

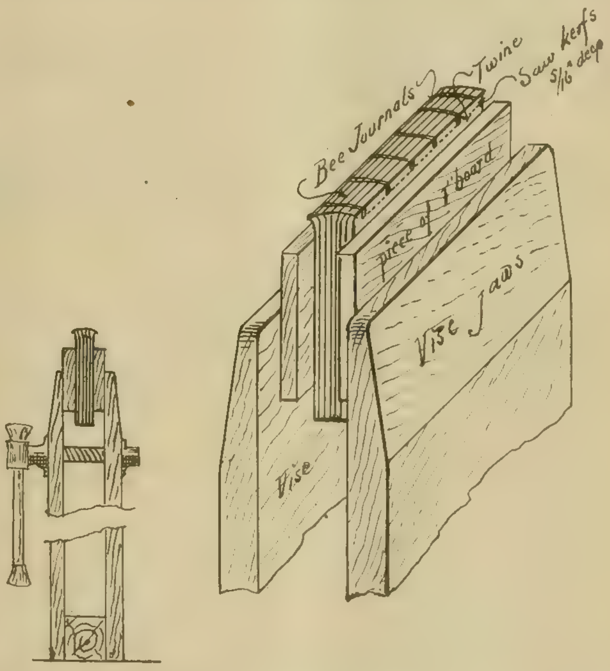
Contributed Special Articles

Binding Bee-Papers—Cheap, Effective Method

BY R. B. ROSS, JR.

IN looking over some old copies of the American Bee Journal I find that the earliest volumes which I have (back as far as 1890) are still in as good condition as the day they were bound, making due allowance, of course, for wear and tear; for I might as well confess here and now that these old bee-papers have been a source of immense pleasure and satisfaction to me.

My purpose is to urge all bee-keepers to preserve the various periodicals appertaining to their pursuit, as the winter evenings will give great opportunities for re-reading and digesting what perhaps they have been forced to lay aside, or merely skim through, during the busy rush of summer work. In this way very many valuable suggestions are gleaned, which, if put into practise, will add to the profits as well as the pleasures of our work. One such idea (which I had missed previously) helped me to get a fair crop of honey the past season, while my neighbors had but indifferent success.



There are doubtless some good binders on the market, and if one is disposed to use these they will answer the purpose very well; but if you wish to put your papers into solid book form at a minimum of expense, nothing, it seems to me, can excel the following method for durability and cheapness:

Remove, as far as practicable, all the creases which your papers have received in mailing, so as to get them to lie nearly flat. If the papers have been kept under a weight as fast as received and read, no trouble will be experienced on this score.

Get together the following materials: A pot of good flour-paste; a ball of common cotton grocery-twine—(a stronger twine is, of course, better if not too large); a few small strips of old cotton or flannelette; a putty-knife, or stick of soft wood whittled down to a similar shape—the end-bar of a Langstroth frame will furnish the material.

Now get out two boards of 1 inch or ⅞ stuff about 8 inches wide, and 4 inches longer than the paper you wish to bind.

Place one of the boards before you on a bench or table, and lay a year's papers on it, being sure that they are properly arranged as to dates, and not upside down. Let the backs project beyond the edge of the board about half an inch, the back of each number coming flush with its neighbors. Now place the second board on top directly over the first one, and with the help of a carpenter's vise or screw-clamps squeeze the boards tightly together, allowing the backs of the papers to project above the tops of the vise, as shown in the illustration.

With a cross-cut saw make 5 or 6 saw-kerfs across the back of the papers, the end-kerfs being about ¾ of an inch from each end, the others dividing up the remaining space.

It might be well to add a word of caution at this stage about removing the little wire clips with which the papers have been held together, wherever they interfere with the saw.

Be careful not to get the kerfs too deep, about five-sixteenths of an inch being right. Blow away the paper sawdust and flood the saw-kerfs with the flour-paste, using the thin edge of the putty-knife or stick to work it in thoroughly.

Now bring the twine into use: Commencing at one end of the center section take a couple of turns around it through the kerfs and tie securely, making the knots come in one of the kerfs so as to be out of sight. Now wind the twine in and out, back and forth, *being sure that you make a complete turn around each section before winding around the next.* Tie securely again in one of the kerfs, put in some more paste, and with the putty-knife pack short pieces of old cloth into the cuts, on top of the string, until they are completely filled.

The bound volume can now be taken out of the vise, and, after adding some more paste, put a piece of cloth or heavy wrapping-paper across the back and sides in such a manner as to cover the exposed portions of the twine where it runs along from section to section.

If you wish to add card covers it can easily be done, as you have a good, solid back on which to work. You can still further improve the appearance of the volumes by getting some friendly stationer to trim the edges for you in his large paper-cutter.

In conclusion, don't forget—

To have *good* flour or starch paste.

To remove all possible creases from papers.

To avoid the little wire clips when making saw-kerfs.

To stop sawing before you get the kerfs too deep, or you will not be able to read the papers when bound.

Clean up the kitchen if you have done your work there, and keep the "better half" sweet. Montreal, Que.

3.—Dadant Methods of Honey-Production

BY C. P. DADANT

As I said in a previous article, we began the breeding of Italian bees about 1867 with one untested queen, for which we had paid $5. This queen proved purely mated and a good breeder. So we began rearing young queens from her. We made a lot of little nuclei, much on the plan of the baby nuclei of to-day, only the combs were about 6 inches square, and we gave each nucleus a good supply of bees. The queen-cells were produced by removing our breeder to another hive and allowing her former hive to remain queenless. By feeding the bees during the rearing of queen-cells we secured very good queens.

At the end of the 10th day, when the queens were about to hatch, we introduced one queen-cell to each nucleus made the previous day. In this way we reared a sufficient number of queens for all our colonies and a few to sell. I remember that an old farmer of Iowa heard of our Italians, and came across the river and paid us $20 for queens. Until then I had thought my father rather extravagant to have paid $5 for a single queen, but I changed my mind from that day on.

There was one trouble about our breeding, and we soon found it out. I mention it that others may not fall into the same fault. It was the rearing of both queen and drones from the same mother. Within a few years some of our queens produced blind drones. It is quite probable that our bees had already been too much in-bred before we bought that queen, and we followed the mistake of our predecessor. As soon as we found this out we secured other Italians from another breeder, to mix the bees with fresh blood. It was then that my father formed the plan of beginning the importations of queens on a large scale. But disappointment after disappointment was in store. The Italian breeders (or rather dealers, for they did not do any breeding) were entirely ignorant of the necessary requirements of shipping, and literally drowned the bees by supplying them with too much honey. Then they insisted on furnishing them water. A little later it was the bee-moth which interfered, for moths are exceedingly plentiful in the warm climate of Italy, and the moths destroyed the combs and the bees during the trip from Europe. The boxes would arrive here alive with moths and filled with a mass of webs and cocoons.

At last my father made a trip to Italy in partnership with Mrs. Ellen Tupper, whom the old bee-keepers will remember. This trip was a failure, also, but from that time on the true methods of queen-shipping were ascertained, and success at last crowned our efforts, after some five or six seasons of failure. We were able to secure new blood direct from the original source.

The experience of those days prompts me to say to the beginner: Do not rear queens and drones from the same stock, but be as careful of the former as of the latter. If you do not care to breed queens by the new methods, you can still rear them in the old way, from strong colonies made queenless during a honey-flow, taking care to begin as early as possible.

We always reared our queen-cells from the very best queen we had, taking the following things in consideration: Purity of race, prolificness and gentleness. When I say prolificness, I mean largest honey-production. These two things always go hand in hand.

Our drones were reared from the next best colonies, by giving them a couple of drone-combs in the center of the brood-nest, and feeding them plentifully as early as convenient, so that they might breed drones early. The drones of good quality are as essential as the good queens, but we can not control the mating, and for that reason we are likely to lay more stress upon the queen's pedigree. But we can, to a great extent, secure pure mating by rearing both drones and queens early.

We found it also very important to destroy the drone-combs and replace them with worker-combs, as much as possible, in all the colonies from which we did not want any reproducers.

I say, replace the drone-combs with worker-combs, because we found that if the drone-combs were cut out and the space left empty, the bees would almost invariably rebuild drone-comb in the same spot. But they are averse to destroying comb, and if you insert worker-combs in the empty space, you will find that they rear drones only in the cells of accommodation, or in the corners that happen to be left. Every colony will rear a few drones, in spite of all we can do to prevent it, but it is the wholesale breeding of drones which we want to encourage in only one or two colonies and prevent it in all the others. Not only your bees, but also your neighbor's bees, will become improved by this, and the benefit will sooner or later come back to you.

Hamilton, Ill.

Mice With Bees in Summer or Winter

BY G. M. DOOLITTLE

Winter or summer—which? That's the question. If it is summer you are asking about, let the mice go with the bees all they wish, for it means so many dead mice. I know whereof I affirm, for three times in my life I have known mice to run into bee-hives in summer, when the colonies in them were in a prosperous condition, and the mice were dispatched in 5 minutes unless they succeeded in getting out of the hive very quickly. But if it is winter you are talking about, then I say, *Don't*.

During winter the bees are in a semi-dormant state, and when in this condition they will not notice a mouse by way of killing it by stinging or in driving it from the hive. And if the mice are so annoying that they arouse the colony to activity, this dormant state is broken up, and through this the chances of good wintering are very much lessened. Then, as the bees do not drive the mice from their hives, the mice "have full sway," and the result is gnawed combs, with nests amongst them, and a general nasty mess is sure to follow. And when the bees get things cleaned up in the spring, if they live through all the worry and trouble, as soon as comb-building commences these damaged combs are sure to be repaired with comb of the drone-size of cell, so that our nice, straight, all-worker combs—combs which we have taken so much pains to secure, and looked upon with so much pride—are nearly ruined, as far as rearing worker-bees is concerned.

There are four species of mice which are troublesome to

the bees and their keeper, and they are troublesome in this locality in the order named:

1. That innocent looking, fawn-colored-on-back-and-white-underneath mouse—which is called in these parts by the various names of "wood-mouse," deer-mouse," "dor-mouse" and "tree-climber"—cause more trouble than all the others put together.
2. Next, the house-mouse—the one our good house-wives so much abhor, on account of its getting into the pantry and feasting on the good things there.
3. The field-mouse—that chap that lives on our grasses and their roots, and the one so hated by the orchardists on account of its gnawing the bark off the young fruit-trees near the ground, or "girdling" them.
4. The little, soft-furred shrew.

The dor-mouse lives, when in the hives, on the thorax part of the bee, and it is very easy to tell when he is around the hives, by finding the head, wings and abdomen of the bee scattered all about on the botttom-board of the hives. The house-mouse eats the honey, and does not touch the bees as food. The field-mouse eats nothing in the hive, but is pleased with the warm place he can enjoy at the bees' expense; while the shrew cares for nothing in the hives except the bees, which he greedily devours, all except the wings.

Thus, the experienced eye can tell at a glance the kind of mice that are troubling the bees in any apiary, in this locality, during the winter months; the only time in which mice are really troublesome in the apiary, and can work accordingly, when means are used to get rid of these pests.

And now about keeping them from the bees, for I suppose that is what all are the most anxious to know: Where colonies are wintered outdoors, I know of but one reasonable plan, and that is to keep them out of the hives; for mice do not annoy by running over the hives when the bees are wintered on the summer stands as they do where cellar-wintering is practiced. My plan has been to procure some of the galvanized wire-cloth, having ⅜ mesh, and from this cut the right size strip so that it will fully cover the entrance to each hive, and, when in place, this will perfectly exclude the mice, and at the same time allow the bees as free a use of their "doorway" as if it were not there. And the time to put this on the hive is a little before the bees cease their activity in the fall; for should you wait till later before putting on these mouse-excluders, you might fasten the mice in the hives, when it would be worse than an open entrance would be.

Where bees are wintered in the cellar, and especially where the bottom-boards are left on the summer stands, we must resort to traps or poisoning. As I dislike the poisoning (on account of the liability that the poison may be used through accident or otherwise by something besides the mice; and on account of the stench that will arise where many mice or rats are killed with poison) I adhere to the traps, and in 25 years of practice I have been enabled to keep the mice under perfect control with these traps. I use two kinds of traps—the "catch'em-alive" and the "choker," though I much prefer the latter. However, there is now and then a field-mouse too large for the choker-trap, and you are sure of him with the other, and for this reason I use both where I am led to believe that the field-mice are present.

For the dor-mouse and house-mouse, give me a good 4 or 5 hole, wood, choker-trap in preference to anything else, no matter whether these mice are in the bee-cellar, house or barn. Before you set these traps, drive a wire-nail down from the top over each hole, so the point will stick through the center of the top of the hole from ⅛ to 3-16 of an inch, this nail-point coming just in front of the wire that does the choking when the mouse springs the trap. When thus fixed, no mouse will ever pull out of the trap, even though he is caught just at the end of the nose. I use ⅜ or ½ inch nails for this purpose, just according to the thickness of the wood in the trap. When the trap springs, the choker-wire forces the point of this nail through the skin on the back of the mouse's neck, and it is impossible for him to pull away, no matter how weak the spring to the trap may get.

But this article would be incomplete without telling you about the bait to use. Cheese is the most common bait used by all when setting traps for mice, and if it is the house-mouse you are after, that is all right; but for the others it is almost the poorest bait you could use. What is wanted is a bait suitable for all and every kind of mouse that comes along. After years of study and experimenting along this "mouse-bait" problem, I use corn on half the bait-rods, and pumpkin or squash seeds on the others. All kinds of mice eat both of these, and especially the seeds. Even the shrew, which is an insectivorous animal, is eager for squash-seed, especially those fresh from the squash. With these choker-traps and this bait, I have no trouble in ridding any bee-cellar of all mice within two days to a week from the time I commence.

At the out-apiary I use the Dr. Miller bottom-boards, and before nailing up, the cleats for the wintering side have a saw-kerf cut in them at the right place. so that when the bottom-board is reversed (when the bees are being prepared for winter) a strip of this ⅜ mesh wire-cloth is slipped into this kerf, the hive set up to it, so that when the crate staples have been driven to secure the bottom-board to the hive, the whole thing is secure from any mice getting at the bees and combs; for I do not go near this cellar after the bees are put in till they are taken out in the spring. In this way the bees and combs come out in perfect shape each spring now, while formerly many combs would be spoiled each winter, and whole colonies of bees ruined by the mice, tolerated in this farmer's cellar. Borodino, N. Y.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Plan the Work

The following, taken from Farm and Ranch (Texas), applies so well to bee-keeping that it was too good not to repeat it here. This is the age of better industries, and bee-keeping should follow in line. We are all interested in the betterment of the bee-keeper and his vocation. It is as follows:

"Seed-time and harvest must come year after year. In following this steady round we form certain habits with more or less thought worked in. Unless we take care the work of this new year will be done upon the plan and the plane of last year. Have a care. Devise plans. Adapt. Here is Improvement. Take fast hold upon her; let her not go until you have lifted self from the ruts of weeks and months of labor. Better stand still for one week than to follow blindly the customs, the set-fasts of the former years. Recast it all. Do it now, before planning this year's crops. Get a system. Make it peculiar to yourself and to your surroundings. Let it have a color scheme, bordered 'round with some fun. Let in the light of mirth and joy, or the plan will be colorless—a sober grey. All work and no play may make Jack a dull boy, but it makes his father (and his mother) grumpy, dissatisfied or sodden. True in city as well as in country. Let in the light.

"Drudging from 12 to 16 hours a day does not make truly great men or women—though it may make martyrs. The leaven of Thought is worth more than Muscle. Brute strength has been heavily discounted by science and invention. Where are the well-balanced men, who, with trained minds in sound bodies are their own 'captains of industry?' These are masters of self. Every day should have its hours of Toil, of Rest, of Thought. These are the trinity of daily balance in our lives. Plan to recognize Toil, Rest, Thought."

Farm Bee-Keeping

Does bee-keeping on the farm pay? This is a question asked us by many farmers after their attention has been attracted by the busily working bees on the flowers—in the fields—or by the busy hum of the little workers near an apiary of a large apiarist, or even when they see some of the nice, white product of the hive on display in a store window, or in its place on the table; or when, perchance, a copy of a bee-paper has fallen into their hands at some time. To these the answer is that in most places it pays, and in more ways than one.

As diversification in crops on the farm has become to be the order of the day, bee-keeping should not be overlooked as one of the branches of a well-regulated farm. Many farmers should own a dozen or two colonies of bees, and these, if properly taken care of at the right time, would need very little attention as compared with the time necessary for the care of poultry, stock, and truck-gardening.

Besides a good remuneration in honey for the table, and some to spare, the bees would do much good in fertilizing fruit-blossoms at the same time, for why did Nature place these little cups of nectar in the flowers to tempt the bees and butterflies? It was for no other reason or purpose than to have the little workers aid in pollenizing the fruit-blossoms to make the plant or vine more fruitful, besides furnishing man with so rare a dish of sweets, through the agency of the bees. For this reason I would recommend—encourage—farm bee-keeping. But I would impress also the fact that the bee-business is like any other occupation, and if only a half-dozen colonies are kept it pays to have up-to-date hives, and use modern methods. Keep them in a business-like way; look after them at the right time; give them the proper attention, and bees on the farm will pay well for their trouble.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

A Beginner's Questions

What is the price of a fertilized queen-bee? Are the Carniolans better than the Italians? I am a beginner. I bought 2 colonies; one died 2 years ago, and last year they did nothing but swarm. I have 15 colonies now, and I should think it was time they had new blood in the stock, if they are like all other farm stock. What would a baby nucleus cost by express? and where can I get it?

Rock Co., Wis. Mrs. J. C. Plumb.

You can get an untested laying queen for one dollar usually, and that is probably the best you can buy.

Some people may think the Carniolan, but the majority will say the Italian.

If your bees are doing good work as honey-gatherers they are probably not suffering for new blood. If there are bees anywhere within 2 miles or so from you your bees will cross with them, and you can not help it. So you see they may be getting the new blood all right without you knowing it.

Unless you intend to go into queen-rearing on a rather large scale it is hardly advisable to have anything to do with baby nuclei, as they are used only for the fertilization of queens.

Honey in Canning Fruit and in Candy

Suppose we give Miss Wilson a little lift when we can, by sending to her a bit of our experiences. You know lifting only makes us stronger, and no one can tell the good that has been accomplished by just a word or sentence. Sometimes a mere accident or necessity may reveal a fact that, if known, would be of inestimable value as a basis of experiment, while the incident itself may be only a trifling thing, yet causing others to think and investigate.

For instance, we have had a little experience in the use of honey, that may be interesting to some of the sisters.

Having nearly one-half barrel of dark honey that we did not know just what to do with, because we could not use it for wintering bees, and to feed it in the spring meant either to damage our crop or be to the bother of extracting it; so we concluded to try it in our canning, and, indeed, found it very satisfactory.

We had small fruit to put up, such as cherries and berries. After the cherries were pitted ready for canning, we put them on the same as we would for ordinary canning, only used honey in place of sugar, and found the color even deepened and the flavor improved.

We then tried strawberries, and they were beautiful to look at, and as delicious; while the same testimony may be given for black and red raspberries.

We also found honey-hoarhound candy is delicious. Mr. Ferris brought a small package of hoarhound from the city. We took about one-fourth of the package and steeped it until the virtue was taken from the hoarhound, and strained, then put in 2½ cups of sugar, letting that boil a few moments, or until most of the water had evaporated, if not all of it; then we put in the same amount of honey—2½ cups—and let it boil (stirring almost constantly) until, when we tested it, it hardened quickly. Mrs. A. K. Ferris.

Madison, Wis.

This Sister Delights in Bee-Keeping

Dear Sister Wilson:—I will send you a report of my honey crop this year.

My bees gathered 700 pounds of surplus honey, and I had to feed them 700 pounds of old honey, so they just made a living last year. They did not gather any honey after July to amount to anything, and so did not store any in the surplus boxes after that, but this doesn't discourage me, for I delight in bee-keeping. I took a trip to the Eastern States two years ago. I went to Illinois, Indiana, Ohio, Virginia and Pennsylvania. I saw but very few bee-hives along the railroad where I traveled.

Linden a Valuable Tree.

The linden or basswood is valuable in a great many ways. The best butter-bowls and butter-paddles are made of linden wood. The butter doesn't stick to linden wood. I have a linden butter-bowl and butter-paddle that are 54 years old, and they have worn well. Many a pound of butter I have paddled in a linden butter-bowl with a linden butter-paddle. If the people of the State of Iowa had planted linden groves instead of maple groves that State would have been far wealthier, and also far healthier. Hurrah for the bee-keeper that has a linden grove!

Propolis Very Valuable.

Propolis is very useful in a great many ways. I have invented a new kind of picture-frame. It is made of propolis and all kinds of fancy broken dishes, glassware and old picture-frames. The frame, when finished, looks beautiful as well as ornamental. Some time I will tell how this picture-frame is made.

Crackless Cakes of Beeswax.

If one doesn't want the cakes of beeswax to crack, render the combs in the full of the moon, as the Germans call it; or in the light of the moon, as the Yankees call it. Then the cakes of beeswax won't crack. Some of you may laugh at this idea. Mrs Catherine Wainwright.

Sister Wainwright, suppose you try it in the dark of the moon, and then in the light, and see if there is any difference, and then report the difference.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Bees and Alsike Clover Seed.

The experiences about bees and alsike seed which Mr. Pettit puts in on page 884 are striking. A few patches of alsike yield seed well usually. A large acreage, if near a big apiary, yields 6 to 9 bushels per acre. But 1½ miles from an apiary, and beyond, the yield will be only 2 to 5 bushels per acre, with same soil and culture, if many acres are tried. *Must have* bees, it seems, to raise alsike seed profitably on a large scale.

The Blessedness of Failure.

The poem, "Blessed are Ye That Fail," is one of very great beauty and excellencé. As it stands, the first line of the second stanza is a rather startling failure rhythmically considered; but, perhaps, the printer is the one to blame on that.

> "For none [can] fail unless they first have striven"—

would go all right; or—

> "None fail unless they first [somewhat] have striven."

Luke 6:21 comes very close to the wished-for beatitude—Blessed are ye that weep now; for ye shall laugh. Hard to name many things which we weep over more frequently than over our failures. Page 885.

Guesses it to Be Poison.

My timid guess at "Cuba's" sad case of bees dragging one another out until nearly all were gone would be poison. Between poisonous nectar and poison given by some ill-disposed person I would rather guess the latter. But, after all, it may be a disease—more or less akin to the one known as paralysis—perhaps still nearer to what has been called "Evaporation." Page 886.

Witch-Hazel a Late Bloomer.

One of the latest things to bloom is witch-hazel. Blooms are most conspicuous after its leaves have fallen off, and everything else is going into winter quarters. Lots of it around me; although I do not remember ever seeing bees at it. Possibly they would go for it if weather allowed. Page 886.

The Miller Wax-Extractor.

For aught I can see, the removable cone cover of the Miller wax-extractor is expected to be water-tight at the bottom after it is put on. Beyond hoping for, and a fatal defect, it seems to me. May be I'm too faint-hearted. Nevertheless, the germ of a valuable new utensil may be there. Actual use rather than inspection of pictures must decide finally. Hope Mr. Miller, now he is in for it, will stick to his task, like a dog at a root, until he *does* get a satisfactory machine that will grind loose and float out the the wax instead of penning it in. Page 898.

Cerasin and Beeswax.

Some rogues are pretty sharp. It rather jars us up to be told by authority from Washington that pure cerasin—not a particle of beeswax in it—has been encountered looking and smelling very much like beeswax, and with the correct melting point, also. Correct melting point would not necessarily mean the proper amount of toughness when at 100°, Fahr. Page 902.

Bisulphide of Carbon in Canada.

'Pears like the Canadian druggists have milder appetites for profit than ours if they sell bisulphide of carbon at 10 cents a pound. Page 905.

Valuable Man Who Defends the Sparrow.

In the country the sparrow multiplies and displaces our native birds much better than he. I'll grant that in the cities there was a time when the small boy had the native birds driven out, and the sparrow had not come yet, leaving a dangerous vacancy for worms to breed in. I think proper public and police remedies should have been applied rather than the importation of a bad foreign bird. And, with all due apologies to Em Dee, the robin, as I see him, takes the perfect cherries and leaves the wormy ones. But the man who dares to defend the sparrow is an exceedingly valuable man. We'll look to realize much good from his David-and-Goliath performances *some other time*. Page 906.

Farewell to the Old Year.

Eugene Secor's farewell to the Old Year goes right to the heart of some of us old chaps, who love the old things and ways, and receive the rush of new ones with forebodings, and more or less of reluctance. Alas, we repeat the experiences of the dog tied to the hind "ex" under the wagon! Our hanging back doesn't count. Barking and howling occasionally is a little more to the purpose; but even that avails very little. On goes the wagon. I can remember when for a country minister to take a fee for conducting a funeral service would bring about his ears an indignation meeting. Now the practise is general. On goes the wagon. I can remember when no one thought of such a thing as ordering people away from picking berries in his woods or uncultivated lands. If any one secretly desired it, wholesome fear of being called "a hog" restrained him. Now that practise is general. On goes the wagon. And how much does my gentle howl avail? Well, there are berries in my woods; and while I live I guess the public will be free to come and pick. After then, who knows? It's not only "Good-bye, Old Year!" but Good-bye, Old Fraternity Times! O Liberty, Equality and Fraternity! Equality has gone; Fraternity is going; how long will Liberty stay alone? Page 1.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Internal Hive Temperature

1. How many degrees of temperature is there in a bee-hive, in the brood-nest, or above the brood-nest? Answer in figures.

2. If I place one hive on top of the other, what would be the temparature in the top hive? Would this make any difference?

3. How hot is it in a hive in the summer—in honey-flow, I mean?

4. If a thermometer be placed between two combs of brood with bees on them as usual, at what figure would the thermometer stand? Wisconsin.

Answers.—1. I can not give off-hand the temperature to be found in a brood-nest in summer-time, and rather strangely I do not find it by looking at the index in a number of books, although it is well known. I think it is not very far below 100 degrees, although, of course, outside temperature and strength of colony will make a little variation. "Above the brood-nest" may be just the same as in the brood-nest, and it may be quite different, something, of course, depending upon how far above is meant. On a broiling hot day the temperature above would be about the same as in the brood-nest; with the outside temperatnre at 60 degrees or lower, the temperature would fall, as the distance becomes greater above the brood-nest.

2. If both stories were occupied with bees, there would probably be no appreciable difference in temperature; although on a cool day the temperature at the bottom of the lower hive would be lower than in any part of the upper hive.

3. In the honey-flow the temperature of the brood-nest will be the same as before and after the honey-flow.

4. I don't know, but it would vary no little with the variation of the surrounding air. In a full colony there is very little such variation, for the strong force of bees is sufficient to keep up a uniform temperature with little regard to surrounding temperature; but with only bees enough to cover two combs the case would be different. If the outside thermometer showed 100 in the shade, I should expect about 100 between the two combs; but with the thermometer constantly falling in the surrounding air, it might be expected to fall also in the cluster, but not to so great a degree.

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Honey-Dew—Late Winter and Spring Feeding—Cleaning Wood Separators

The last season was the worst I experienced in several respects. The early part of the summer was wet and cold. White clover—our main source of honey—bloomed profusely, but furnished but little honey, and the cold, wet weather did not allow the bees to gather much of the time. Later the bees got busy for a time, but I could not see many working on white clover, and, on examination, I found they were working on the leaves and small limbs of red-oak timber. The honey they gathered was thin, of a muddy-water color, and of poor quality. The season turned dry and the flow stopped all at once, and we got no more honey to speak of. Basswood was a failure, and we had no fall flow. I examined my bees and found that out of over 50 colonies I would have to feed about half of them, which I did with sugar syrup until I considered I had them all in shape to winter. The fall was favorable for a late flight up to Nov. 20; I put my bees into the cellar the first of December, and I was surprised to find that they had consumed their stores until there was not more than a dozen that would winter, and several had already starved. I put them into the cellar and am feeding heavy sugar syrup. Some take it quite readily, and some take it slowly. They appear all right so far, and I will take them out as early as they can have a flight.

1. What, in your opinion, was the nature of the source of honey gathered from the red-oak timber?

2. What was the cause of the stores disappearing between feeding and putting into the cellar?

3. Please offer any suggestion that you think would be beneficial in getting my bees through the winter and spring, as I wish to save them, if possible, as the prospect for a good white clover crop the coming season is flattering.

4. I have noticed that in your book and other writings you advise throwing wood-separators away after they become coated with propolis, it being cheaper to buy new ones than to try to clean them. Now, I have never thrown one away until it was worn out or broken, and I don't miss the time it takes to clean them. I have a device of my own by which I clean a hundred per hour easily, and I am not quite certain but what bees enter a super more readily with separators that have been used, as it appears to be natural for a bee to want to stick its nose around among fixtures that have been used in a bee-hive. I shall not attempt to explain my system, but if you feel interested I will make you an outfit and send it to you to try, and I think you will quit discarding used separators, and throw your short-handled hatchet at a stray dog. After a test, if you find any merit in it, you can tell the folks about it. I find that to cut expense in small things is what helps to add materially to the profit in bee-keeping. IOWA.

ANSWERS.—1. It was the so-called honey-dew, probably the production of the aphis or plant-louse.

2. It was probably nothing more than the unusual amount of continued warm weather, allowing the bees to fly without being able to gather anything, the continued exertion obliging them to draw heavily on their stores. It is barely possible that the character of their stores may have had something to do with it, too.

3. There is probably nothing to be done better than you are doing, for so long as they have the sugar syrup convenient they will use that and let the honey-dew alone, and honey-dew is very generally not the best stuff for bees to winter on.

4. I don't know that I have ever advised that every one should throw away wood separators after having used them only once, and, indeed, last year I used some myself that had been used once, but were unusually clean. There are probably localities where there is so little bee-glue that a separator might not be very badly daubed with propolis after several years' use. Then there are other localities, especially at certain times of the year, where a separator would be unfit to use the second time without being cleaned. The choice between cleaning separators and buying new is a matter to be decided by the cost of cleaning as compared with the cost of buying new. You are quite right, I think, in believing that the bees would have at least a little preference for separators that had been once used. That's because of the bee-glue that's left on them, and the more heavily coated the better, to suit their notions. But the bee-keeper, rather than the bees, is to be considered in this case, and for this purpose the cleaner the betfer. At least for my own use I prefer them immaculately clean.

So, unless they can be cleaned at a little less expense than the cost of new separators, the new will be preferred. Some are so situated that the time occupied in cleaning might be worth little or nothing for any other purpose, and such persons can make money by cleaning 100 separators an hour. In my own case it would be cheaper to buy new, especially as I have a preference for them, so it would hardly be worth while for me to try your arrangement, but it will be well worth while for you to publish your plan for the benefit of those to whom it might be a real saving.

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How About North Facing of Hives?

Is a lawn sloping to the north a good location for bees? The entrances to face the north, and no shade. OHIO.

ANSWER.—You will probably find that it will not make very much difference whether the slope and the aspect are toward the north or the south during most of the year. Sometimes your north slope will be the better one, and sometimes the south. In cool days the southern exposure will generally be better, and in the hottest days the northern. In winter there will be days when soft snow is on the ground and the sun shining brightly to entice the bees out to a chilly tomb, and on such days the northern aspect will be better. There will be other days in winter when the weather and all conditions are favorable for a cleansing flight, and then the southern slope will be better. That cleansing flight is a matter of so much importance that on the whole it may be better to have the southern slope for wintering. This refers, of course, to locations far enough north to make a winter flight an infrequent occurrence. If your bees are wintered in the cellar, it will probably be a toss up which way is better.

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What Dr. Miller Thinks of the Bee Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

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Reports and Experiences

Mildest Winter Experienced

We are having the mildest winter I ever experienced. Up to date the thermometer has touched zero only twice; there has been no snow, and if a severe cold snap comes it is likely to prove disastrous to the alsike clover. Bees appear to be wintering all right.

Markham, Ont., Jan. 15. J. L. BYER

Summer in California

I have just come in from my home-apiary, and I never saw the like of bees in the air for Jan. 3. And what do you think? One of my very strong colonies, with a 1905 queen, had drones!

This has been the dryest season I have yet seen in California—only a little over an inch of rain has fallen. No doubt the bees think it is summer yet. CHARLES EDSON.

Grafton, Calif.

What One Nucleus Did

I bought a 3-frame nucleus June 8, 1905. I gave it full frames of foundation in an 8-frame hive, and on July 10 it swarmed; on July 18 it swarmed again. Oct. 10 the parent colony weighed 58 pounds in an 8-frame hive; the prime swarm, 72 pounds in a 10-frame hive; and the other weighed 50 pounds in an 8-frame hive. I weighed them without the hive-covers. They are all in Wisconsin hives. I also got 24 pounds of honey, which I sold for 15 cents a pound.

The foregoing is the very best way to get a start with bees. I have some black bees, but they are not "in it" with the Italians.

If I had known about the American Bee Journal 40 years ago I would have had it.

JAMES GAMASH.

Waukegan, Ill., Dec. 26, 1905.

Packing Bees for Winter

Last July I embarked in the bee-business, and as I have owned bees since that time (5 months) I should be able to give some "valuable advice!"

The last of August I was taken sick and did not get out of the house until in October. When I did get able to be around I examined the bees and found two of the colonies about destroyed by the moth, and 3 or 4 with but very scanty provision for the winter.

I brought them in from the country (46 colonies in all), and placed them facing the east and south, along the fence and an out-building, placing the colonies 4 inches apart. After they had become used to their new quarters I packed them well with straw, filling in the space between the hives and fence, which is a 2-foot space, and in between the colonies and underneath. However, before I packed them I cleaned all the moth out and fed up the weak colonies, although it was late in the season.

December 1st I took tarred paper 3 feet wide, put one layer on and let it project over the front of the hives about 12 or 14 inches, then placed another one on, reaching back to the fence and lapping over the first one about a foot. This, I think, will help to keep the heat in, and the snow, rain, and cold out.

After they had several good flights, the last one being December 26, I leaned some short boards against the hives at an angle of about 45 degrees, and on these I placed another sheet of the tarred paper, thus closing the bees up as completely as though they were in a cellar. This will save the work of carrying the bees in in the fall and out in the spring. Besides, they will have the advantage of a flight every warm day, as all that will be necessary will be to lay the last sheet of paper back on the gronnd and they will be out-of-doors; and the paper will cover up the snow,

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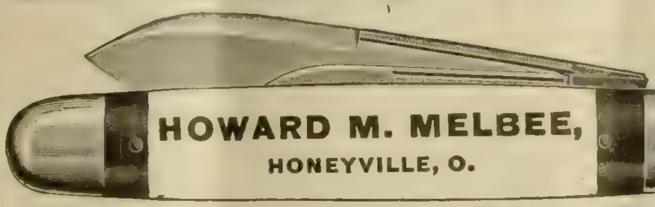

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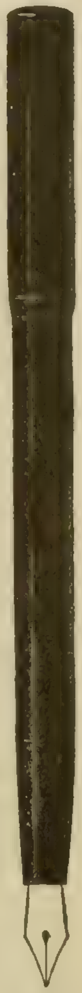

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should there be any on the ground, for a space of 3 feet in front of the hives.

I forgot to say that on top of the first two sheets I placed some woven-wire netting that I use in the garden in the summer-time for the peas to run on. I placed this on top, and then weighted it down with old lumber to keep the wind from blowing it off.

Packing these bees thus cost me not to exceed 10 cents per colony. Wm. G. Roberts.

Panora, Iowa, Dec. 28, 1905.

Results of the Season of 1905

I had 6 colonies of bees last spring, and increased to 8. Two of the weakest swarmed, and the rest gave 400 pounds of section honey, which I sold at 18 to 20 cents per section.

My bees are in good shape for winter, with plenty of honey to last until it comes again.

I used T-supers on cases as soon as sections came into use. I sawed the T-strips with a foot-power saw, so I used them before I knew of Dr. Miller. Dr. Miller was the first to begin the use of top and bottom starters in sections. My bees would build up through between sections. Then I tried putting starters at the bottom of the sections, and it worked like a charm. I have used them that way ever since. Henry Best.

Hibbetts, Ohio, Dec. 29, 1905.

Did Fairly Well the Past Season

I put my bees into the cellar Dec. 15, and they are in pretty fair condition, seeming to rest easy. The cellar is fresh and sweet, where the thermometer reaches 30 and 40 degrees above zero. All have plenty of stores for winter. They did fairly well the past season, as I sold nearly 1000 pounds of honey, and have 500 left. I sell all my honey around home and in neighboring towns; comb honey from 10 to 15 cents, extracted 60 cents per half gallon jar, or $1.20 per gallon. I sell more extacted than comb honey. I extracted 80 pounds of honey from each of some colonies, and from some 75 pounds of section honey. I think it pays better to run for comb honey, but one thing is certain, it does not sell as well here as does extracted. People say it is too dear; they say it is nice, but would rather take a jar of extracted. Sometimes I give them a section as a sample, and when I meet them again they ask me whether I have some more of that nice section honey, and they sometimes buy 10 or 15 pounds at a time.

I have a rubber stamp with my name and address, and every section is stamped, as it looks more neat. B. F. Schmidt.

N. Buena Vista, Iowa. Dec. 28, 1905.

Home-Made Hives and Frames

Mr. J. E Johnson, on page (1905), wrote a splendid article on home-made hives, trusts, etc., which is worth the price of the Journal for a long time.

I started the bee-business 23 years ago when it was next to impossible to get factory-made hives. I bought the "A B C of Bee-Culture," which contained directions for making hives by machinery, and from it I studied out a plan to make them by hand. As Mr. Johnson said he did, I made several failures before I could make a good hive cheaply; but now, with the exception of the locked corners, I have as good a hive as I care for, with less work than Mr. Johnson did.

I made a frame hive, Langstroth size, with bottoms and covers that I like better than any factory-made hive covers or bottoms I ever saw. For bottom-boards I simply used 1x14 inch boards cut 24 inches long, which is enough longer than the hive to make a nice alighting-board. I used 2x4 all-heart yellow pine for sills cut angling, or 14 inches on one edge and 18 on the other so as to give a wide foundation to prevent the wind blowing the hives over during a storm. These I set on thin flat rocks or bricks, which keep the hive-bottoms off the ground, and by keeping them well painted they will last a life-time, as I have some I made in 1882, and they are sound and good yet.

In making the cover, I used boards a little wider, 1x16 inches, cut 20-½ inches long. I wet the heart side and laid them in the sunshine on wet ground or grass, wet side down, and in half a day they were cupped to an oval shape sufficient to turn water.

For end stuff I used 1x3, cut on one edge the shape of a wagon felloe, and the same length as the width of the cover, so the ½-inch stuff used on the sides of the cover will come up against the edge of the wide board and nail well. I then covered it with tin and put on iron handles, made in a blacksmith's shop, on the center of the cover, and painted the hive.

In making the body of the hive I cut the lumber the proper length after rabbeting the end-stuff for frames to rest on, and nailed together, with the heart side out to prevent cupping or pulling off at the corners, with four 8d nails to each corner.

For an entrance to the hive I cut out, on the lower edge of the front end of the hive, a strip ⅜x6 inches, or sometimes this strip may be the full width of the hive.

For frames, I proceed almost as Mr. Johnson did, except the hand-ripping of good boxes. I went to the lumber-yard and selected all sap-fencing lumber 1x6 inches, and 12 or 14 feet long, and had it ripped at the planing-mill the sizes or thicknesses desired, and used the pattern or miter box for cutting. To prevent splitting in nailing, I put the material (after it had been cut into the proper lengths) into a tub of water for a few minutes, for, as you know, a sappy stick does not split easily.

Now, for comb-guides! I learned from Mr. Doolittle, in the American Bee Journal, how to make a wax comb-guide and starter all in one. I will not tell here how that is done, but it's all right, for I have used it for years, even in section-boxes. D. F. Marrs.

Lorena, Tex., Sept. 17, 1905.

The Season of 1905

I had 70 colonies to start with in the spring of 1905. During the season I took 4130 pounds of choicest white honey. In the fall I sold 3 colonies, and put 115 into the cellar.

Jacques Verret.

Charlesbourg, Que., Jan. 23.

Bee-Men and Bees—Large Sections

I have often thought what a fraternal lot of fellows bee-men are! I think I hear some one say, "You don't know them all or you would not say that." Well, I don't know all of them, or nearly all, and those I do know I have been introduced to through the bee-papers, but I will say that the man who is out of this fraternal ring, and always has a bone of contention or an axe to grind is not a bee-man, or much of a man of any kind. There seems to be something in the business from beginning to end which works benefit for all concerned.

To start at the beginning, the bees benefit the flowers which they visit. The process of mixing the pollen from one flower with that of others, I suppose we all understand. While the bees are thus working good for the seed of the plant, and eventually the harvester, they are also supplying the colony with a subsistence from its sac of honey and basket of pollen. After a time the little workers have some of this treasure to spare, and it is placed up-stairs in the sections or extracting combs. They are thereby benefiting him who has supplied them with a home best adapted to their needs.

After a time the honey is harvested and sold, and I am not sure that he who purchases the precious sheet is not the most benefited. I must not forget the supply-dealers; they, in the course of events, must also be greatly helped.

I have now something a little different which I would like to say.

I noticed several articles lately in the different journals regarding a larger package for comb honey. Now, if you ask for a show of hands, mine goes up in favor of this. But I would add another clause: When that section grows large enough to weigh about 2 pounds, then sell it in the only way which honey should be sold—by weight. As it now stands, the same amount of work, package, and foundation is required to produce a 12-ounce section as one weighing 16 ounces, and can not, therefore, be sold profitably by weight. The cost of producing a larger section would not be in proportion to its size, and it could then be sold profitably by weight.

I also believe the bees would start work much sooner in these larger sections than in the ones now used. They surely would sell as readily, so would we not get a crop of comb honey off our hands much sooner? I would like to hear what such men as Dr. Miller have to say on the subject. H. A. Smith.

Palermo, Ont., Canada.

Experience with Bees and Sparrows

After reading on page 907 (1905) what Em Dee has to say about the sparrows and various other birds doing so much good, besides sticking up for our faithful, everlasting worker, the bee, I concluded to give some of my experience.

One day last summer, as I stood watching my bees, I noticed a sparrow alight on one of the hives and pick up a bee crawling on the hive-cover, then fly away, and after a few moments' absence it came back with several others, and these, besides two or three king-birds, were playing havoc among my laborers, so, of course, I decided to stand it no longer, and went in for my Marlin repeater shot-gun, but on returning I was surprised to see nothing of the birds. However, I went over towards the orchard, when lo, and behold! the sight there. They were at home eating June-bugs, which do much damage to this fruit-growing district by eating every leaf on the whole tree. But I would prove to my friends at once as to their value, and, taking aim, I brought down two sparrows and one king-bird, and drawing my knife, I opened their breasts and found in the two sparrows, 273 June-bugs, 13 bees, and some other small insects; in the king-bird were 3 bees and 62 June-bugs, 7 angle-worms, and a few half-digested insects like beetles.

This shows that their harm-doing qualities are indeed very limited in proportion to all the good done by them. Tell the young hunter (I mean your boy) never to molest these songsters, as this day we are enjoying the over-abundant big crop of fruit, vegetables and grain, also including the different varieties of flowers. All this would be practically useless to us if our faithful pets went back on us. "Spare the birds and such animals as do more good than harm," and think before you act.

H. Petzold.

Warren, Wis., Dec. 28, 1905.

More About the Sparrow

Like Mr. Stolley, I often read stuff which seems to require refutation, but what's the use? (Page 48.) But when a defense is made on behalf of the English sparrow, then truth can not be repeated too often.

It is not my desire to deny that the English sparrow does a little good once in awhile, but the harm which he does in destroying the nests of other birds, such as martins, bluebirds, wrens, etc., fully justifies the employment of any means tending towards his extermination.

Mr. Stolley says: "Of all the birds we have, the sparrow destroys more insects, worms and caterpillars than does any other kind of bird." Supposing that he had reference to the English sparrow, I would like to remind him that our Government issues a pamphlet on the sparrow and its relation to agriculture, which, if he is interested in the truth of the matter, I would advise him to obtain.

I had one of these pamphlets, but gave it away some time ago, so I have to draw on my memory for what I am to write. It describes perhaps 15 or more varieties of sparrows, all natives of America except one—the English or house-sparrow. All the native sparrows depend more or less upon insects for their living, and all destroy more injurious than beneficial insects; they eat but little grain, and consequently are not often seen in the neighborhood of houses or barns. Our friend, the English sparrow, however, is never found on meadows, etc., or any distance from houses or barns except in grain-fields; he lives on grain mostly, takes a few insects occasionally for a change of diet, and of these he prefers such as not only do no harm, but which are really beneficial in destroying other injurious insects, etc. His young likewise receive a worm or insect now and then.

This is about the result of thousands of observations and experiments made in the field and the laboratory—not by university professors, but by experts who are maintained at Washington by the people of the United States, to find out the truth and tell it; and I would advise every friend of the English sparrow to obtain a copy of the pamphlet and be convinced.

Referring to thrushes, catbirds, etc., Mr. Stolley says these miscreants can not stand our Northern winters, and go South when they have had their fill, while the sparrow bravely faces the storm and cold. I would like to ask, What good does he do during this time? Any? And what good do these miscreants referred to do while they are here? Have they not helped to protect the fruit-patch against the insect pest? and, when with them a change in diet is in order, can we justly blame them for taking simply their own? No, Mr. Stolley, don't try to put our friend ahead of all other birds—it will do him more harm than good. AUG. F. KOCH.

Middle Amana, Iowa.

[We think the discussion of the sparrow has gone far enough in these columns, for a bee-paper. If it is necessary to say more, it will have to be done in a bird-paper, or elsewhere, so far as we are concerned.

But it shows that bee-keepers are an observing lot of people, and have other animal friends besides the bees.—EDITOR.]

Colonies in Fine Condition

Bees have had 3 summer days; it has been very warm. Not a colony is lost thus far, but all are strong and in fine condition.

HENRY ALLEY.

Wenham, Mass., Jan. 23.

Bee-Keeping in Arkansas

The "old reliable" American Bee Journal continues to come regularly every Friday. May it continue so to come. May it live long and continue to spread out to every clime on the globe.

To-day bees are working on what I do not know, and they are bringing in pollen. They have a flight here nearly every week during winter. The coldest I ever saw it here was 15° below zero, and that was for only two days. Last winter it was cold in January and February; I lost one colony only, and the reason was the hive was made of ¾-inch stuff, with no protection, and the bees were weak anyway. I winter them on the summer stands in single-walled hives. I take off the supers after the honey-flow, put on a quilt and top-board and contract the entrance. That's all, and I have no trouble in wintering. I never saw any foul brood, or heard of it in this part of the country. I never saw any honey-dew here on any kind of tree but hickory and black-gum; that goes to prove to me that it falls just as any other dew falls. The propolis is gathered from the sweet-gum here.

Why does it take a drone longer to hatch than a worker, and a worker longer than a queen? Does it take the same temperature for all of them to hatch? By select and careful breeding I have one colony of bees that work at night. Next season I expect to rear all queens from this one queen.

Arkansas has some mighty queer things. I have a golden queen that is 1 5-16 inches long—the largest queen I ever saw; and lay—oh, my! she simply piles out the eggs. She lays so fast I have to hatch the eggs in an incubator, and after they are hatched I rear the bees in a brooder! That relieves the nurse-bees of a lot of unnecessary labor, so they can be gathering honey.

Mr. Doolittle reports 63 pounds of honey in 3 days; Mr. Root, 43. One man in Texas reported 700 pounds from one colony in one season; another one, 1000 pounds. That beats Arkansas.

I handle my bees without gloves. I don't haul bees on a hay-rack, or pin down my veil.

Mr. Root freezes his queens to make drone-layers. Last winter, when my bees froze, they did not thaw out. If they can be frozen and thawed out, it seems to me that would be the best way to winter them. Put them in honey-bags and hang them up and let them freeze, and, when spring comes, hang them out in the sun, and as they thaw they would return to their hives, and that would save feeding through the winter. Mr. Root might try it and see how it works. Poor is the rule that will not work both ways.

W. C. EDGEWORTH.

Pulaski Co., Ark., Nov. 19, 1905.

CONVENTION NOTICE.

Washington.—The annual meeting of the Washington State Bee-Keepers' Association will be held in the old M. E. Church, on Third Street, North Yakima, Wash, Feb. 14, 15 and 16, 1906. An interesting program is assured. One feature will be the illustrated lectures on bee-keeping. Let all bee-keepers in different parts of the State attend and make this an interesting and valuable convention.

VIRGIL SIRES, *Sec.*

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OTISVILLE, PA., Jan. 18, 1904.

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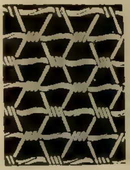

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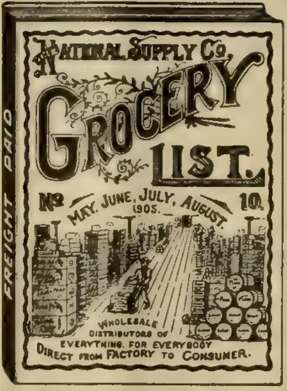
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Fresh Air applied to Artificial Incubation in a new and effective way, making possible higher per cent hatches, brighter, healthier stronger chicks.

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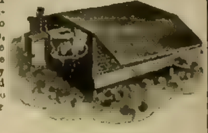
Put the Universal Hover into it and make your own brooder. The Universal Hover may be attached to any size or form of Colony house, mushroom house, small portable building or piano box and make about as good a brooder as money can buy. Write for catalog and the five books FREE. Others to follow, you'll get them all if your name is on our mail list.



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For prices, refer to my catalog, page 29.

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Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

Chicago, Jan. 8.—The market is steady with about the usual demand; the prices range from 14@15c for best grades of white comb honey. There is not an active demand for off grades, which usually sell at 1@3c per pound less. For extracted a steady demand exists for the best grades at 6½@7c, but for sour or off flavors there is practically no sale.
R. A. Burnett & Co.

Toledo, Oct. 17—The honey market remains firm, with good demand, and prices the same as last quotations. Fancy white comb brings 15c; No. 1, 14c; fancy amber, 13c; buckwheat, 13c. Extracted, white clover, in barrels, 6¼@6½c; amber, in barrels, 5@5¼c; in cans, 1c to 1½c higher. Beeswax in good demand, 26c cash, 28c trade.
Griggs Bros.

Indianapolis, Feb. 2.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c. Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
Walter S. Pouder.

Denver, Nov. 11.—No. 1 white comb honey, per case of 24 sections, $3.35; No. 1 light amber, $3.00; No. 2, $2 50@3.00. Extracted honey, 6¾@7 cts. per pound. Supply is light and we coud make quick sales of consignments at above figures. We pay 24c for clean, yellow beeswax delivered here.
The Colo. Honey-Producers' Assn.

New York, Feb. 19.—The demand is fairly good for better grades of white, and while the near by crop is fairly well cleaned up, new arrivals are now coming in from Cuba, besides several cars have been shipped on from California. We quote fancy white at 15c; No. 1, 13@14c; No. 2, 12c; amber, 11c; buckwheat, 10@11c. Extracted in fairly good demand, especially California, of which there is abundant supply. We quote white sage, 6½@7½c; light amber at 6@7c, according to quantity; buckwheat at 6c per pound; Southern at 50@60c per gallon, according to quality. Beeswax steady at 29@31c.
Hildreth & Segelken.

Cincinnati, Jan. 20.—The honey market is quiet. We do not offer white clover extracted honey on account of its scarcity: instead offer a fancy water-white honey, equal to if not better than the white clover, in 60-lb. cans, two in a crate, at 7¼@8½c; fancy light amber, 7½c; other grades of amber in barrels at 5¼@6¾c, according to the quality. Fancy comb honey, 16½c.

(Bee-keepers, please observe the above are our selling prices of honey, not what we are paying.)

Beeswax, 30c, delivered here, for the choice, bright yellow grade.
The Fred W. Muth Co.

Kansas City, Jan. 22.—The market here on honey is very dull now, as it always is this time of year; fancy white is selling at $3.00 per case; 24-section and amber is selling at $2.75. Extracted, 5½@6c. Beeswax, 25c per pound.
C. C. Clemons & Co.

Cincinnati, Jan. 23.—The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5¼@5½c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c.
C. H. W. Weber.

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CRATES 2-60 LB. CANS; 8c
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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., FEB. 15, 1906 No. 7

Apiary of A. A. Brimmer, of Hoosick, N. Y.

(See page 138.)

Apiary of Arthur Stanley, located in Clark Co., Wis.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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General Manager and Treasurer—
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(INCORPORATED)

OBJECTS:

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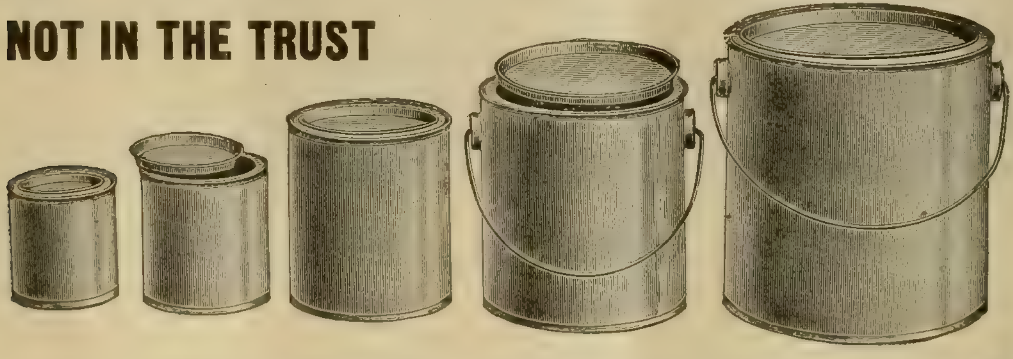

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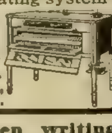

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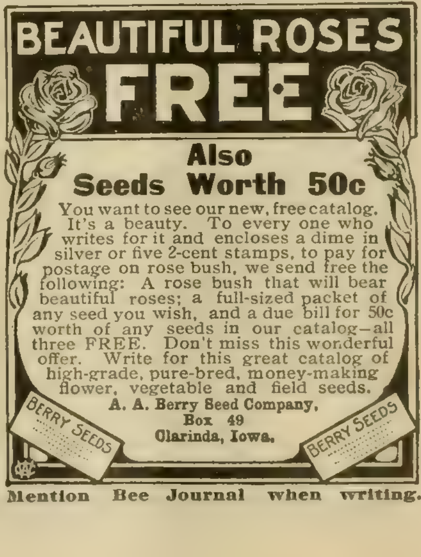

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Discount for January is 6 Percent.

TESTIMONIALS

We are always greatly pleased to see your new editions of your new catalog of Bee-Keepers' Supplies, etc. We shall certainly make ample mention of it in our paper. You are our best authority in regard to all matters of bee-keeping.

Yours very truly.
C. H. HOWARD, *Editor*,
Farm, Field & Fireside.

Dear Sirs:—The shipment of hives and bee-supplies which you sent me arrived in excellent condition, and every one who has seen them is delighted with the accuracy and precision of the workmanship of every detail, both of the goods and the manner in which the order was executed.

Yours very truly,
Cape Colony. FREDERIC T. BIOLETTI.

I have just now unpacked and examined the goods sent by you, and am greatly pleased with the lot. W. H. GILL.
Scottsville, Ariz.

Gentlemen:—I am well pleased with your prompt way of doing business. The goods are just simply nice. Many thanks. Yours truly,
JOHN D. A. FISHER.

I do not want anything set up, as I would rather set the hives up myself. Besides, it is a pleasure to put Root's hives and fixtures together.
Tiffin, Ohio. JOHN L. FUNK.

Your promptness and square dealing indeed make it a pleasure to do business with you, and I thank you. HARRY H. LARKIN,
Buffalo, N. Y. Care Larkin Co.

My bill of bee-supplies reached its destination in due time. I am under obligations to you for the kindness, for a delay would have been a loss to me. Please accept my thanks.
Treadwell, Tenn. W. W. WATERS, M. D.

I desire to thank you for being so prompt in sending the sections I ordered from you. They came in less time than it takes to tell it.
Kent, Ohio. L. G. REED.

The consignment of bee-material received to-day. Your promptness in filling orders is remarkable, especially when the circumstances are considered. I am very well satisfied with the goods and your dealing. I take pleasure in having introduced "*ROOT'S GOODS*" into this neighborhood.
Fredericksburg, Iowa. REV. WM. ENGLE.

Our Catalog for 1906 is ready. Write for a copy.

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GEORGE W. YORK, Editor CHICAGO, ILL., FEBRUARY 15, 1906 Vol. XLVI—No. 7

Editorial Notes and Comments

Sulphur and Sugar Syrup for Bee-Paralysis

Sulphur and molasses used to be a favorite medicine "to cleanse the blood." Now comes a correspondent in the British Bee Journal with a somewhat similar prescription for bee-paralysis. It is sulphur and sugar syrup. He says:

> "I took away all their stores, sealed and unsealed, and as they were greatly reduced in numbers I contracted the brood-chamber, leaving them only a few empty combs (one or two contained brood), and put a chaff cushion each side of the frames to keep them as warm as possible. Then I made half a pint of sugar syrup, putting in a small teaspoonful of sulphur and 5 or 6 drops of Dr. Collis Brown's chlorodyne. The sulphur must be made up to paste consistency first, as it is hard to mix with the syrup afterwards. I also made the syrup a little warm. This I gave them in a 'Simplicity' feeder on top of the frames. The sulphur settled to the bottom of the feeder, but I suppose they got the benefit of it. I put the chlorodyne in because it is such a universal remedy for rheumatism, cramps, etc., in human beings. At any rate, that treatment quickly cured them, as no more died after they got the doctored syrup, and to-day they are doing well and working away as if nothing had happened."

Dealing With Vicious Bees

The following, from the British Bee Journal, is given with the caution that too much of it might give an unpleasant flavor to comb honey:

> If any reader is troubled with really vicious bees, determined to rush out in a body to attack as soon as the hive is approached, he might try the following when there is any necessity to manipulate them:
>
> Charge the smoker with part of an old quilt which has gotten worn out by long use. It will be pretty heavily propolized, possibly on both sides. Being of a rather inflammable substance generally, it may be made up into a roll with alternate layers of some slow-burning material. Thus treated, it will send out dense clouds of very pungent smoke, which will effectually check any attack from the bees on the operator. A very little of it will go a long way, so that too much should not be used, because bees might perhaps be injured by inhaling too strong a dose of this powerful intimidant.

What is a "Bee-Space?"

If any one has a perfect definition for the term, it will be thankfully received at this office. Perhaps in general it is used to mean the space for best results between different parts in a hive, so that in such space the bees would do the least in the way of filling up the space either by filling in comb or bee-glue. But does that measure the same in all places? A contemporary advised lately that there should be a bee-space between bottom-bars and floor-board. If by that was meant the same space that works best over top-bars, then the inquirer would probably find in a short time that his frames were no longer movable on account of the bee-glue fastening down the bottom-bars.

Years ago there was more or less of an understanding that 3/8 of an inch was a proper bee-space. But with 3/8 of an inch over top-bars there is sure to be much comb built and honey stored in it. As the space becomes smaller, less and less comb is built, but when the space becomes too small then bee-glue is filled in. There is probably no exact space where neither comb nor glue will be built in, but about 1/4 inch has perhaps been settled on as the space inviting the least of either, with perhaps a leaning toward a space just a shade less than 1/4 inch. Is that the best space between top-bars? Is it the best space between end-bars and the ends of the hive? Pretty certainly it is not the best space under bottom-bars.

Fastenings When Hauling Bees

At the National convention R. F. Holtermann expressed a desire for a more secure way of fastening bottoms and covers to hives when hauling them. He had used crate-staples, and so far had had no trouble with them; but was a little afraid they were not quite secure enough. Why not add enough staples so that there could be no question as to security?

Sweet Clover a Boon to the Farmer

A. Wicherts, of Matteson, Ill., sends us the following concerning sweet clover, taken from the Joliet News:

> "Farmers have long scolded about the encroachment of sweet clover on the highways and along line fences. Now comes a Lockport farmer who claims it is the farmers' best friend. The gentleman, Henry Leiser, says that a patch of it was allowed to grow in a corner of his farm. He plowed it under, and this year got a magnificent yield of corn from the clover spot.
>
> "Not only did this corn yield well, but exceeded that of a neighbor who had used the much-talked-of rock phosphate, from Tennessee."

Sweet clover is not only one of the best things a farmer can use for fertilizing the soil, but it is also an excellent nectar-yielder for the bee-keeper. With the exception of the past 2 or 3 years, sweet clover was an unfailing honey-producer in the region around Chicago. Had it not been for sweet clover during those years, the bee-keepers in this county would likely have had very little honey, if any at all. There are some bee-keepers who do not seem to like the flavor of sweet clover honey, but we are not of that class; but even if we were, we think we should very much prefer sweet clover honey to having none at all.

When the farmers also learn the value of sweet clover for hay as well as a fertilizer, they will be glad to encourage its more general growing. In some localities the farmers have fought the sowing of sweet clover seed, claiming it to be a weed. This came from utter ignorance of the plant. But if not wanted, it is one of the easiest things to kill out, which can not be said of most weeds. All one has to do to get rid of sweet clover is to mow it before it blossoms. Not allowing it to go to seed will destroy it very soon, as it is a biennial.

Night-Working Bees

A bee that works only by night is to be found in the jungles of India. It is an unusually large insect, the combs being often 6 feet long by 4 feet wide.—Exchange.

The foregoing item is given in all seriousness in a leading Chicago daily newspaper. One hardly knows whether to laugh or get mad on seeing such stuff.

Miscellaneous News ✣ Items

N. H. Smith, and not R. H. Smith, it was who is reported on page 82, in the Ontario convention report, as having taken 25,000 sections of honey from 167 colonies, spring count, and increased to 185 colonies.

* * *

Back Numbers since Jan. 1, 1906, we can send for awhile yet to all new readers who desire their subscriptions to begin with that date, so as to have a complete volume for this year. They are all very valuable copies.

* * *

The York Honey & Bee-Supply Co., as well as The A. I. Root Co., made an exhibit of honey and bee-supplies at the Annual Poultry Show, held here in Chicago last month. The York Honey & Bee-Supply Co. also had on exhibition the Cornell incubators, brooders, and other poultry supplies which they are representing here in Chicago.

* * *

The Wisconsin Apiary of Arthur Stanley is shown on the first page. It contains about 100 colonies, and has been run very successfully the past 2 seasons. The bees have been wintered in a cellar under a dwelling-house with almost no loss. This apiary is managed by Mrs. Stanley practically alone, who, with her little daughter, stand at the left as you look at the picture. The other two persons are Mrs. Stanley's father and mother.

* * *

Mr. M. H. Mendleson, of Ventura, Calif., has been selected as Director of the National Bee-Keepers' Association, taking the place of Ernest R. Root, who recently resigned. Mr. Root was elected Director last November, and would have occupied the office beginning with Jan. 1, but he finally decided that it would be better for him to resign than to accept the position, and did so. Mr. Mendleson was then agreed upon by the Executive Committee, after duly canvassing the situation and considering the names of various leading bee-keepers who would make most acceptable Directors. But it was finally decided to honor a California bee-keeper with the appointment, as that State, since Jan. 1, has not been represented in the officiary of the Association, and, also, as Mr. Mendleson is perhaps the most extensive bee-keeper in that State. His honey crop in 1903 was 112,000 pounds, we believe. The selection should be satisfactory to all concerned. We congratulate both Mr. Mendleson and the great honey State of California.

* * *

Getting New Subscriptions ought not to be very difficult now. We believe that if a copy of the American Bee Journal were shown to a bee-keeper who is not now reading it, he would quickly see its value to him. And we will be glad to send free any extra copies for samples to be used by our regular subscribers in getting new readers. Just let us know how many you can use; or, if you prefer, send us the names of the bee-keepers, and we will mail the copies to them. You can then call on them later and ask them to subscribe. Nearly every week we offer some premiums for the work of getting new subscriptions.

* * *

The Apiary of A. A. Brimmer is also pictured on the first page this week. It seems to be a very pretty one, and nicely located. There were 182 colonies in the yard last August, when the picture was taken. It is the largest apiary in that section of the country.

Mr. Brimmer tells us that the American Bee Journal has been a welcome guest in his family ever since its first publication. That means for over 45 years. We often wonder how many old subscribers there will be who could join in the celebration of the 50th birthday anniversary of the American Bee Journal, which, if nothing prevents, could be observed in about 5 years from now.

* * *

Japanese Coming to Keep Bees.—The following is taken from a January magazine called "Comfort:"

> "Mr. Akioki, a Japanese of distinction, is in this country seeking information as to the climate and resources of Texas, where it is proposed to found a colony of his countrymen. He will bring over 300 families, who will settle on a solid tract of 10,000 acres in Bee county. They will undertake bee-farming and silk-culture."

For the truthfulness of the report we will have to refer to Mr. Scholl, of our "Southern Beedom" department. Of course, all those 300 Japanese will want to read the American Bee Journal as soon as they learn our language. We will welcome the whole "Gideon Band" of them to membership in the American Bee Journal family.

* * *

Law to Restrict Bees.—The following news item appeared in the Chicago Tribune of Feb. 1, from Des Moines, Iowa:

> Representative Wayland to-day introduced in the House a petition from 124 citizens of Defiance, asking legislation "prohibiting the running at large and roaming about our public streets of all honey-bees of whatever variety or species."
>
> The petition sets forth the request is made "realizing the great damage done each year by reason of the common honey-bee roaming about and running at large in our cities and towns, by their continual biting and sipping of the precious fruits and beautiful flowers, to say nothing of their continual buzzing about one's ears from early morning to late at night, and their frequent stinging." The petition was referred to the Committee on Agriculture.

We mentioned this ridiculous matter several weeks ago, but didn't suppose Iowa had a son in her Legislature so silly as to introduce a thing of that kind.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Contributed Special Articles

Bee-Hives and Beet-Sugar in Germany

BY PROF. A. J. COOK

IN many respects the Germans lead the world. In general agriculture they are away to the front. They have developed the sugar industry—beet-sugar—to a very high position. Indeed, we must go to them for our own beet-seed would we get the best. I hope this will not always be so, and believe it will not, yet experts in Germany think that America has not the requisite climatic conditions to grow or produce the best beet-seed. This seems to me strange, for in our grand country we can find almost any range of climate—hot, cold, dry, or moist.

In bee-culture, however, we do not find the same advance. I have inquired much for honey, and often find none at all, and, when I do find it, it is in form forbidding—great chunks in a wide open vessel, which chunks, when raised, often drip in most untidy fashion. When asked the price, I always find it extremely high. I have never had less than one mark (25 cents) asked for this stuff, which, in America, few would either buy or sell.

In the Agricultural Museum, in the great University of Berlin, is a very extensive and complete collection of agricultural implements. We find the best tools, from the reaper and mower down to plow and hoe. Nor are the bee-hives omitted from this general exhibit. Yet the bee-hives are indeed a surprise. Surely the Germans need a Langstroth to show them the hives that advanced bee-culture demands. There is a large collection of hives in the exhibit, and they are varied. I asked Prof. Plate, who very kindly and courteously showed me through the museum, if these hives represented the hives now in use in the best bee-yards, and he answered that they did. At my request he very cordially allowed me to return to the hives and inspect them carefully at my leisure.

The most of the hives are made of braided or twisted straw rope, though a few are of wood. The straw-hives are attractive to look at, and I imagine would delight the poet. Yet, in America, they would as surely be turned down by the practical bee-man. The most of these straw-hives are of the model of our common box-hives; that is, they open only at the bottom. This quite accounts for the dark-stained chunk honey that is so often found in the market—honey that never would be offered for sale in our own country. Of course, such hives in these days when both in Europe and America foul brood, and possibly other bacterial diseases, wreak their disastrous mischief and ruin in many apiaries, and call for closest scrutiny and inspection of every part of the hives, are not to be tolerated, and will not be by those who are alive to the needs of advanced bee-keeping. In our own country some of the foul-brood laws have worked to eliminate these box-hives as plainly a menace to the industry. We should suppose that the Germans, as open-eyed as are they in all matters of science and scientific research, would be first and loudest to decry any such device that tends so surely to hide the germs or presence of foul brood. For other, though less weighty, reasons—such as queenlessness, weakness, bee-moth—the up-to-date bee-keeper will insist that his methods and implements permit the fullest and freest inspection of all his hives.

But the frame hives are also in evidence in this collection. There are several of these, both of wood and straw, and of several sizes and of very varied forms. In these the frames rest on rabbets as they do in the Langstroth hive, yet these hives open only at the end, and so all the frames must be drawn out from the one door at one end of the hive. Several of these hives are quite long—as much as a meter in length. I can readily imagine that, once the frames are glued down, it would be a picnic indeed to get them loose and out. So great would be the difficulties of manipulation that I feel sure that the manipulation would be reduced to the minimum, and, in many cases, the bees would not be handled at all, and we would find what are virtually closed or box hives. I can hardly understand how any one could use such hives if he had ever seen or read a description of the real Lanstroth hive which opens at the top.

Others of these hives had only the top-bar of the frame, and so the combs were built or fastened to the side of the hive, and all removal of the frames demand that each comb be cut free from the hive at both ends. Think of the labor, the drip, the killing of bees, not to mention the danger of the comb falling from the top-bar when it had no other attachment! It is said of the great Dzierzon that he used such hives, and became very expert in handling the frames. It is hard to believe that one so gifted—one who gave us the fact of parthenogenesis among bees—could be so slow to appreciate and avail himself of the great discovery of our own Langstroth.

I was also surprised to see so few of the hives that would permit an extra chamber for surplus, or any way to secure top-storing. Of course, the poetry of bee-keeping to-day lies in the production of the beautiful comb honey, in the neat, exquisite sections. All this would be sacrificed in these hives that are wholly without any top openings, and so wholly destitute of provision for surplus outside the brood-chamber.

As I expect to remain in Germany until May, I shall hope to visit some of the most advanced "bee-masters," and shall then see just how the hives are used, and if there are none of our style of hives. If there are none, then surely it would be wise for Germany to provide a thoroughly up-to-date American apiary, that all our implements and methods might be seen and studied. Such an object lesson would surely work a revolution in bee-keeping, as it did in America nearly a half century ago, when Langstroth gave to the world the greatest invention ever known to the bee-keeping art—the movable-frame bee-hive.

BEET-SUGAR AS A BEE-FOOD.

The matter of cheap food for feeding bees is one that interests the bee-keepers, especially in such regions as California, where the frequent dry seasons make feeding imperative. At our California beet-sugar factories we can obtain a cheap, poorer article of sugar that is good and safe for bee-food, but not so high-priced as the best granulated sugar. This leads me to say a word of beet-sugar production.

Germany leads the world in this industry. She has a large institution just at the north of this great city, where research and instruction in all matters of beet-sugar production are constantly carried on. There are students from all sections of the world. I never saw a finer, more complete laboratory. The head of this institute is Prof. Herzfeld, who has no superior in beet-sugar lore. As stated above, he thinks Germany alone can produce the best beet-seed. He craves for Germany European markets, and fears only Cuba—and not her, unless she becomes annexed to the United States. In this last case, he fears the energy and push which would come with American ownership. The past year has been one of exceeding prosperity in the beet-sugar industry. The beets have gone 20 tons to the acre, and have given 18 percent sugar. Both these figures are exceptionally high.

30 Heilbronner Strasse, Berlin, Germany.

❋

Why Dequeened Colonies Don't Swarm

BY L. STACHELHAUSEN

WHY will a colony, dequeened so long that it is without unsealed brood during 4 or more days, not swarm?

In an article in the late Western Bee Journal, Mr. Adrian Getaz says that by caging the queen, or dequeening, a colony can be prevented from swarming if this colony is without unsealed brood at least 4 days. The article is reprinted on page 645 (1905). The statement is no doubt correct, but about the explanation given by Mr. Getaz I have some doubts, and will explain it, as Dr. C. C. Miller, in his reply to the mentioned article, is inclined to accept Mr. Getaz's explanation as correct. Mr. G. says:

"During these 4 days or more without unsealed brood, the young bees having no brood to feed, take to the field, and become actually field-bees notwithstanding their age, or rather youngness. Later on, when the queen begins to lay again, the excess of nurse-bees has thus ceased to exist......"

About 40 years ago Baron Berlepsch, in Germany, made exact experiments, which proved that generally the young bees have a play-spell when 9 days old, and will become field-bees on the 16th day after hatching from the cells. Another experiment proves that the bees of a colony, in which no actual field-bees are present, and no brood were to be fed, when 11 days old could not gather any pollen or honey, and were in a starving condition when the experiments were ceased to save the bees. Baron Berlepsch concludes from this that the bees can't become field-bees earlier than at the regular age, even at the most pressing conditions.

According to the Schoenfeld-Gerstung theory, which I have accepted, the young bee in a normal colony is engaged during the first 3 or 4 days of her life in cleaning the empty cells, just on that spot of the hive where she hatched from the cell. During this time she commences to prepare larval food or chyle, and at the same time the laying queen will arrive on her circling way on the comb here on this spot, and the first surplus chyle prepared by the young bees is offered to her. Three days after the egg is laid the young larva is becoming a consumer of the larval food, and is fed during about 6 days, then the cell is capped by the same bees. This work is done during the first 9 or 10 days of the bee's life, and this is the age at which bees generally have the first play-spell in front of the hive. The young bee does other housework afterwards, and will become a field-bee when 16 days old. This is the normal way, and it is no contradiction to this theory, that older bees, too, *can* feed the larvæ, if this should be necessary. The young bees prepare the larval food instinctively, and a single bee can feed more than one larva, consequently there will not be a surplus of chyle as long as the brood is increasing, and consequently no swarming-fever, as we suppose that a surplus of this chyle—for which the young bees can't find enough consumers—causes an extension of the blood, and thereby the swarming-fever.

We see, if this theory is correct, that young bees in the first 9 or 10 days of their age only prepare the larval food, consequently a surplus of bees of this age only can cause the swarming-fever. Even suppose that under certain circumstances a bee could become a field-bee about 4 days earlier than usual, this could not have any influence in this respect at all.

We will now consider the condition of the dequeened colony at the time when all the brood is sealed. As soon as the queen is removed or caged no more eggs are laid. A worker-larva is capped on about the 9th day, and 4 days more make 13 days, during which time the queen must be kept from laying eggs. During these 13 days many young bees will hatch, but less and less brood is to be fed. The colony will have the swarming-fever even more than before; queen-cells will be started, which have to be cut out at the proper time, so a swarm or further preparations for swarming are now impossible, as no queen, no eggs, and no young larvæ are present. This fact—that the swarming-fever is not satisfied or cured by caging the queen—is one of the reasons why I do not like the plan.

A better explanation of the fact that such colonies do not swarm, seems to me is the following: During these 13 days of confinement of the queen a large number of cells will become empty by the hatching of young bees. As soon as the queen is now released, chyle will be fed to her in large quantities, stimulating her egg-laying power, and she will find plenty of empty cells in which to lay eggs. This is the first consumption of the surplus chyle; 3 days afterward young larvæ are to be fed, and will become consumers of chyle. In most cases this will be sufficient to do away with the swarming-fever.

But we will suppose that new preparations for swarming should be made, queen-cups started, and the queen should lay eggs in them, as it is natural with prime swarms. Before a swarm would issue normally, at least one of these cells must be sealed; this can't be before 8½ or 9 days after releasing the queen, or 21½ days after caging her. As a worker-bee hatches from the cell 20 days after the egg is laid, *all the young bees* will have hatched from the cells at that time. The colony has many young larvæ to be fed compared with the young bees, and no more young bees are hatching. Under such a condition no desire to swarm can exist. If the colony had actually started queen-cells they would be destroyed.

Cibolo, Tex.

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Wintering Bees on Solid Sealed Combs—Carniolans

BY E. F. ATWATER

I NOTE the discussion in regard to wintering bees on solid combs of sealed honey. Dr. Miller seems to think that the way to do it is to give the bees room to cluster below the combs. That may be all right in the cellar, but I doubt if the bees would cluster *under* the frames to any extent when wintered out-doors. I think they would prefer to be up among the frames.

Now, I'll tell you how I have wintered bees on solid sealed combs in the cold Dakota climate. I used a Hill's device with room for quite a large part of the cluster under it, and a porous quilt covered with a chaff cushion above. The Hill's device would be almost solid full of bees. Those combs do not stay full long. By Jan. 1, I suppose that there are plenty of empty cells.

Now, regarding Mr. O. L. Abbott's big yield from "Carniolans," page 15. From Mr. Abbott's writings in the late Western Bee Journal, I infer that his so-called Carniolans are not Carniolans at all. In that paper he speaks of his "*Adel* Carniolans," which, as every one knows, were a strain of golden bees bred years ago by Mr. Alley, and originally from *grey* Carniolan stock, but mated in a locality *not* free from Italian drones. By selecting the yellowest all the time, I maintain, as do many others, that Mr. Alley bred out all the Carniolan blood, and had practically a good strain of golden Italians. Mr. Alley, himself, now advertises them as his golden "*Adel Italians.*"

Mr. Abbott, in the paper above mentioned, quoted from the biography of Capt. Hetherington in favor of the Carniolans. Now, be it known that the Carniolans that found such favor with the late Capt. Hetherington, were of the genuine *grey* Carniolan stock, and not any so-called, but not proven, Adel "Carniolans." I have handled the "Adel" strain, and, I say most emphatically, that they *are not* Carniolans.

I like the grey Carniolans the best of any bees that I have ever tried for comb honey in this locality. They give no more trouble from swarming than Italians here. They do surely combine most of the good qualities of both blacks and Italians, and average gentler than the Italians. In four years' trial their faults have yet to be seen. They use less propolis than any other race.

Meridian, Idaho.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

"Fair Shake" for Canadians

Hello, "Canadian Beedom!" A return hand-shake from "Southern Beedom" for the greetings on page 69. But, look here, ye Canadians (and *we* won't say it in an "*aside stage whisper*"), are we Southerners to be beaten just because you have those "long winter evenings" sufficiently cold to aid in "crystallizing your own thoughts?" While you may have those advantages "Up North," bee-keepers "Down South" have those of warm weather that would make their thoughts flow out in gushing streams! But it is not our intention to "flood out" others; neither will we be prone to let others "freeze out" us, but we expect to go hand in hand and work for the good of all, for "we be brethren."

Something About Baby Nuclei

"The baby nuclei are a success, but there is too much work to get the same results as from the larger nuclei on standard frames."—W. H. LAWS, in The Apiarist.

He says in another paragraph: "If we had only a small number of colonies, and devoted all of our time to queen-rearing, we would certainly use the baby nucleus plan of mating queens exclusively, for a large number of queens can be mated with few bees; but there is an immense amount of labor attached to this method. With our bees scattered for 30 miles, and our chief business that of honey-production, we find it more convenient to have our queens mated from the partitioned upper stories of hives on standard frames, and above wire-screens."

A double screen is used over the brood-nest, and a hive-body partitioned into three sections with a flight-hole to each at different points is placed above this. A nucleus on several combs is made in each of the compartments, and being queenless above the double screen, a queen is mated in each. When through with them the whole is united by simply removing the screen.

The above comes in quite an opportune time, as I have contemplated preparations for rearing a large number of queens to requeen a lot of apiaries soon. I was as yet undecided as to what plan to use for getting the queens purely mated, this having to be done at only one or two yards.

The "baby" nucleus seemed to be *the* thing; but, again, it would have required much time to prepare them. Then they would be on hand afterward with a lot of small combs that could not have well been used for anything else. With the other plan the regular combs can be used for both purposes—during queen-mating, and for honey afterward. Hence, it seems, to me, at least, the most practical.

Some Peculiarities of the Southern Honey-Flow

It is very natural for honey-producing plants to yield nectar in warm, still, sunny weather, but all plants do not require the same weather conditions. Some require damp, cloudy, cool weather; some very dry, hot weather, etc.; but, in all events, the weather conditions have to meet the conditions of the honey-secreting bloom, else it yields no honey.

Here in the South we are not troubled so much with cold weather during the blooming of honey-plants. The bees will visit the bloom, but of all bad weather for honey-gathering it is windy weather. It not only hinders the bees in their flight and work on the bloom, but it is detrimental to honey-secretion. If it rains we have many flowers that the rain can not wash the nectar out of, and the bees will store between showers.

Three years ago I took off a nice crop of honey the first of March, gathered from the mayhaw—the earliest crop of honey ever reported from this section. The weather was cool but sunny.

We had 3 days of cool, damp, cloudy weather last year in August. During that time I visited my Magnolia apiary, and on approaching it I heard the heavy roar of the bees. I thought wholesale robbing was in full force, but I soon saw that they were gathering honey, and, looking on the alighting-board, I saw particles of magnolia blooms. This told the tale. I went a few rods into the swamp, which was beautifully decorated with the large, rich magnolia blooms. I examined a bloom. There was the nectar visible, and all the bees had to do was to alight, fill themselves and return. The weather soon cleared off and the magnolia honey was no more. These 3 days of damp, cool, cloudy weather saved me from having to feed a part of my bees last year, and also saved many old-style gums from being turned bottom end up the coming spring, in this section.

We had a very dry, sultry spell here the latter part of last August, and up to this time bees were living from hand to mouth. All at once they began storing from the cotton bloom, though it looked as if the cotton was going to die in the fields from drouth and heat, yet it yielded heavily until the bees had stored from 30 to 60 pounds of honey per colony.

The peculiarities of the honey-plants in the South are that they do not all require the same atmospheric conditions for yielding nectar. In many portions we have many varieties of honey-plants, therefore we generally get a crop of honey, and that accounts for our not having to feed our bees. The sudden stop of the honey-flow in many portions of the South last year, when the atmospheric conditions remained the same, was quite a mystery to some of us bee-keepers.

It seems that the sumac and a few other honey-plants require a change in the atmospheric condition during their yielding, or they will suddenly stop. J. J. WILDER.

Cordele, Ga.

To the Southern Bee-Keepers

We have been very anxious to receive communications and reports of all kinds from bee-keepers of the South, on topics connected with bee-keeping. Write me direct, here at my home—New Braunfels, Tex.—and I'll be glad to hear from you. Write me personal letters if you wish, in which you can tell me of your experiences, your successes and your failures—anything relative to apiculture. If you are experimenting with anything let me know about it, or ask me any questions, and I shall be only too glad to help you along.

Any news items or notes, no matter how poorly written, and if only on a postal card, can be arranged for our department, just so we get the ideas and the news matter.

Remember, also, that our department includes the whole South, no matter where you are. Who will be the first to help make our department a good one?

Our ✣ Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

A Sister at a Farmers' Institute

Mrs. A. L. Amos, of Comstock, Nebr., has again been invited to address the Farmers' Institute which is to meet at Broken Bow, Nebr., Feb. 14 and 15. The invitation requesting Mrs. Amos to appear on the program, contained these words:

"The people were so pleased with your paper on "Bee-Culture" at our institute last winter that we desire at this time that you should supplement that paper with further information along the same lines."

What one woman can do many another woman should be able to do. Mrs. Amos has set an excellent example for other sisters to foltow. Many of them are most entertaining speakers, and when what they say comes from actual experience in the bee-yard, it is doubly entertaining and helpful to those who are so fortunate as to hear them.

One Woman and Two Colonies

T. Celestine Cummings says in Successful Farmer:

"One woman I know started an apiary with 2 colonies and made a net profit the first year of $100, the second doubled her income, and after that averaged $250, more or less. When the farmer turns his attention to honey-making on a large scale it becomes one of his most valuable assets, bringing from a reasonable number of colonies more than the returns from all the rest of his farm."

How's that for "one woman?" Can any of the brothers beat it? What a pity that we were not told exactly how that $100 from 2 colones was secured. Then after reaching $250 a year, why did she stop at that? Why not go right on increasing so as to get $100 more from each 2 colonies?

After reading that item about the farmers, one begins to wonder that there are farmers left. Why don't they all turn bee-keepers?

A Woman's Determination and Success

DEAR MISS WILSON:—I am afraid some of us are not doing our part in helping you with our department. My conscience hasn't been quite clear about it for some time, notwithstanding the various excuses I can bring forth, such as these: A young baby and two other tots to look after. Then I am my own servant and seamstress (though many things are bought ready-made).

I can hear some one say, "Well, why don't she let bees alone?"

I won't do it. So, there! I think I am entitled to a little recreation, pleasure and profit, but—this is not the report.

I had 17 colonies last spring, and have 17 now. They gave me 930 pounds of comb honey, most of which was gathered in the fall, and much of it was fancy. I had "much ado" to keep the bees together, and not allow (?) them to swarm; and it was too much work; I won't have the time this year, so I expect to try a different plan. Since swarming commences here in April, and my best honey-flow is in the fall, I think I'll allow all to swarm once, and thereby have double the colonies for the fall crop; then double them back to the original number after the flow is over. This will be an experiment, for I don't know that I'll get any more honey, for this locality may be somewhat overstocked now. I am situated in a trucking belt, and all available land is under cultivation, so the bees have to take "'most any old thing" in any old place they can find.

I had a very good market (Norfolk, Va.) near by, but some bee-keeper has been shipping white clover honey at 10 cents per pound, and buckwheat at 7 cents, so that has lowered the price. (That same honey was retailed at 18 and 20 cents.)

Enough—you have troubles of your own.

MRS. C. D. MEARS.

> "When a woman will, she will, you may depend on't;
> And when she won't, she won't, and there's an end on't."

Such perversity. I suspect you will go right on keeping bees, and, yes, I predict you will make a *success* of it, too. But don't get so busy that you forget to write, for we do enjoy hearing from you. Be sure to report how you come out with your plan of allowing the bees to swarm once, and then doubling them up in the fall.

Bees Going Into Top of Hive

DEAR MISS WILSON:—I think it was a case of misunderstanding on your part, and not a full description of my meaning when you answered my question about the bees going past the supers.

I had trouble so in only one hive. You see, in the Hilton hives (which mine are) the super is put inside the hive, and in the case of one colony the super was hardly large enough, leaving room for the bees to get in the top of the hive. This colony was a little sulky because they were disturbed during the swarming time, and the bees seemed to think they were paying me back to fly in the entrance, crawl up to the top of the frames, and come through this little space and build comb to the roof of the hive. I stopped the space in this colony, and as the others did not bother I paid no attention to them.

Now the question is, Would this space cause the bees to "loaf" and not "tend to their 'nittin'" if they did not come up to build comb to the roof? I hope I have made myself plain this time, and I thank you for your courtesy.

(MISS) ELSIE A. CUTTER.

No, you need not be afraid in the least of this space causing the bees to loaf. In fact, it might work a little in the other direction.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Unusual Winter

Temperatures ranging away above the average. Bee-cellars at 60 degrees, and very noisy some days. Out-door bees flying on these days as in May. Frost all out of the ground; bottom clear out of clay roads; farmers plowing and making maple syrup. This is the kind of January we have had. Wonder what sort of summer will follow. The only parallel seems to have been about 23 years ago, and is said to have been followed by a good season. Clover has heaved some in places, but I think not much damage is done yet.

The Brantford Convention

One of the most wide-awake conventions it has been my privilege to attend was the District Bee-Keepers' Convention held at Brantford, Jan. 24 to 26. There were no elections of officers or other routine business—just straight "bee-talk" throughout the sessions. The program simply showed subjects for discussion with no names attached, and each session had a new chairman, who varied the order of proceedings to suit his ideas. Besides the threadbare subjects of winter and spring management, newer ones were introduced, such as "Implements used in the apiary," referring to smoker, comb foundation, brushes, bee-escapes, etc. Withal, there was a freshness and informality to the discussions which made them both interesting and of practical value.

SUGAR SYRUP FOR WINTER STORES.

At the Brantford Convention the consensus of opinion was that sugar syrup is quite equal to honey for brood-rearing, provided pollen is present in the hive. The objection is that we should avoid even the appearance of evil, and the better plan is to save combs of honey for all necessary feeding. Where pollen is scarce in the hive, Jacob Alpaugh, R. H. Smith and others, strongly recommended feeding pollen substitutes, such as pea-meal flour (called "pea-brose"), rye-flour, or any fine meal rich in protein.

SPRING LOCATION OF APIARY—BEE-BRUSHES.

As to location of an apiary in the spring, Mr. Smith objected to a tall spruce hedge, on the ground that while it breaks the wind it also makes too much shade at a time when the bees need sunshine to draw them out.

A good idea brought out by R. F. Holtermann was, to have bees in a valley. They get more early flights with less loss from winds than in an exposed place. Then with side-contraction-packed cover, and storm-door in the portico, they come through the spring without extra protection.

The bee-brush symposium brought out these preferences:

H. G. Sibbald—A goose or turkey wing.
Jas. Armstrong—Coggshall bee-brush.
Jacob Alpaugh—Feather.
Wm. Couse—Whitewash brush.
Lee Beaupre—Green cedar boughs.
Edwin Trinder—Brush of hair.

Mr. Feather, contrary to his name, prefers a paper-hanger's tools; the paper-hanger's brush for the bees, and the wall-scraper for scraping hives and frames.

R. F. Holtermann showed a brush he had from Germany. It is made of hair, and so took the fancy of the members that several expressed a desire to have them imported.

POINTS OF A GOOD BEE-SMOKER.

The smoker discussion was one of the best I have heard on that subject. In fact, the points of a good smoker are seldom brought out at a convention.

One smoker preferred by many has the bellows-boards wider at the thick end of the bellows than at the hinge end. This gives a less clumsy bellows, with practically the same capacity as one that is wide all the way down. The small tube extending half-way up from the "blow-hole" of the bellows to the barrel is just slipped into it, and can be drawn out and scraped with a penknife at any time. Jacob Alpaugh would dispense with this tube entirely, and have barrel and bellows a little closer together. All preferred an outside spring on the bellows.

Nozzles straight and crooked, long and short, were duly discussed. Many prefer the short nozzle.

SMOKER-FUEL.

R. F. Holtermann brought out the point that cedar-bark smoke is liable to taint the honey if used in extracting. At that time he uses small hardwood blocks.

Jacob Alpaugh, R. H. Smith and others, recommend coarse planer shavings. Mr. Alpaugh laid stress on preparing smoker-fuel ahead. He mixes coarse planer shavings with rotten wood and bits of maple bark from the chip-pile. This must be *dampened* before using. The dampening and the maple bark are the important points.

With real dry fuel, smokers "burn their own smoke." The maple bark holds fire almost like anthracite.

A good smoker lighter, says R. H. Smith, is saltpeter rags. I happen to know that F. J. Miller uses these, too.

IMPROVING THE MARKET FOR HONEY.

In the discussion on how to improve the market for honey, H. G. Sibbald read a letter from one of the Toronto dealers, showing to what extent the sale of honey can be increased by bee-keepers and dealers "talking honey" to their customers.

Wm. Couse pointed out the opportunity which Ladies' Institutes afford for a talk on the uses and food value of honey.

W. J. Craig mentioned Bulletin 146, June, Department of Agriculture, as being a good thing for the sale of honey.

Lee Beaupre spoke of peddling honey from house to house, and showed the advantage of a label telling how to liquefy and care for honey.

F. P. Adams thought a great deal could be done by magazine articles.

Mr. Howard had sold 5000 pounds of honey right at home, in a country place.

Mr. Cross spoke emphatically against the folly of boasting about large crops and big profits.

F. A. Gemmill had seen something peddled in the city in a fancy barrel on two wheels, drawn by a Shetland pony. He thought everybody would want a package of honey from such an outfit.

A good point from R. F. Holtermann was that beekeepers should go before the Retail Grocers' Association in every town and talk up honey. Give them good profit, and post them to push sales.

Mr. Holtermann offered a resolution, asking the Government to give the same help to the marketing of honey as to other farm products. Carried.

CONVENTION POINTS AND POINTERS.

H. G. Sibbald asserts that bees in general in this country have an average of not more than 7 Langstroth frames full of brood at the beginning of the main honey-flow. Therefore, 8 or 10 combs in the brood-chamber at all times are plenty. I would like the opinion of others on that question.

Another point: He does not want brood-rearing to increase after the beginning of a short honey-flow, because the bees hatched 2 weeks before the close of the flow never go to the fields to gather honey, hence are a useless expense.

I maintain that only those bees that have not helped in the harvest are fit to go into winter quarters, as the long winter season is sufficient drain on the system without their having become partly worn out by work. Therefore, the more *sealed* brood in the brood-chamber at the close of the flow the better; and we want to give the queen as much room as she can use at all times.

The January Canadian Bee Journal is quite festive in a new, dainty-colored gown, decorated with a large Maple Leaf—Canada's emblem.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

VARIOUS PLANS TO CONTROL SWARMING.

The letter of J. E. Crane, about swarm control, has so many commentable points that I hardly know what to do with it. Mr. Crane is one of those practical brethren that it is well to listen to. Almost discouraging to see how many settled and undisputed things are simply *not so* in the experience of a practical man. I'll dip in first (as, perhaps, most important) at the experience that merely cutting cells all but one does no good whatever. Barely possible that Mr. Crane only means cutting cells once, and that once when there is still unsealed brood to start more with. His remark, however, hardly sounds like that. We scarce need to be told that bees bent on swarming will start more cells, and swarm with the proceeds, if they have the means of doing so. If in a single well-kept apiary just as many colonies will swarm with a lone-cell virgin (and leave the old hive hopelessly queenless) as would have swarmed by the let-alone method, a dozen cells to each hive—that "kind o' knocks us." *Sometimes* they'll do that trick in almost any apiary, I take it.

Next in order as provocative of (! !) is the experience that virgins 5 days old are better received than those 5 minutes old. Those who have found the opposite can not well all be mistaken. What does this wide diversity of experience mean? And success with 3-weeks'-old virgins is a little stirring, too. Virgin 5 days old in a nucleus may be a very different creature from a virgin badly caged 5 days, or a cage-born virgin never out of her cage. Wonder if that is it.

No special introductory for virgins. Lets them run right in at the entrance. And 12 lost out of 36 seems to have been his very worst record—usually very much better than that. But the proportion of loss in late years is greater than it was 20 years ago—and that's queer again.

I think the general impression is that it is *easy* to introduce a laying queen to a hive from which the prime swarm has just gone out—and Mr. C. finds it nearly impossible. Possibly more would find serious difficulty if they tried it much. (Some of the worst sort of disgruntled old bees going back instead of staying with the swarm?)

His puzzle also is a deep one. Why are colonies requeened with ripe cells much more liable to swarm than those requeened with virgins? Well, the former have a good many days to wait before they can have brood to rear, and time to take to troublesome courses; ("Satan finds some mischief still for idle hands to do.") while with week-old virgins they can have brood quickly, if everything goes well. Not sure that this is the true solution, however. Page 5.

WOULD BROWN-UP DR. PHILLIPS.

Glad to see the face of Dr. Phillips, who has come into such prominence in apiculture now Benton is gone. If the tailor may be retailored, and the Doctor doctored, my prescription for him would be lots of bee-work in the hot sun—to brown him up a little. Page 6.

"MAY STARVATION" AMONG BEES.

Aware that there is such a thing as May starvation, for I have met it myself; but for an apiary of a dozen colonies all to starve in the latter part of May is ahead of my time. And should expect it in France even less than in northern U. S. This anent Dadant's article on page 7.

TESTING BEESWAX.

"Look a little out" how you use bur-comb pinched up into a lump as a standard of specific gravity to test suspected wax by, as per page 10. Bees are very apt to knead more or less propolis into bur-comb; and propolis is heavier than water, while wax is lighter. Better get your test-lump from wax that has been melted, and thus the propolis and dirt got rid of.

MOVING BEES.

Strikes me that colonies arriving at a new location minus all the field-bees will not, for quite a bit, get to storing 8 or 10 pounds per day. Of course, it's much better to have the old bees left behind rather than to have them all die on the road; but we'll keep our three cheers for the man that will carry them all over the road without any worrying, and with only the usual daily deaths from old age. Page 25.

LIQUID FEED FOR BEES IN WINTER.

As a matter of off-hand opinion about liquid feed in winter, I don't believe bees will take it up in winter much better than they will take it down. May find it better the first time, if it is warm, because warm odors rise. The grand trouble in both cases is that they only take *one meal*, storing none in the combs for future use. Then, directly, there ensues a week so cold that no bees can go outside the cluster, and starvation arrives. If you *must* give liquid food in winter, fill an empty comb with it and put it right where it is needed. To do this remove an outside comb; slip the next 2 or 3 wallward; then insert the comb of feed right square in the middle of the cluster. But there are other things to be thought of also, especially if out-of-doors. Honey from an inside comb may fail to reach the spaces not adjacent. Also a case might arise in which most of the bees were not quite dead yet, but too cold to take feed. Closing the entrance and bringing them into a very warm room ought to save them for the time being. Then put some feed in the top center of two more combs and give them—placing them next but one on each side of the first one given. Six spaces then have the means of life adjacent; and if some bees die in other spaces the colony can exist without them. All this looks very hopeful on paper, but either dysentery or winter breeding, or both, are liable to step in and scoop you at last. Also time, and space and zeal would all play out before many colonies were treated in such a way. Page 25.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Sugar Syrup for Winter Feeding

On page 71, Louis H. Scholl advises for winter feeding "syrup made of one part of best granulated sugar and one part of water." Do you think it is well to have it so thin as that? Illinois.

Answer.—There may be something about feeding in a Southern winter that I don't understand, but I suspect that there may be an advantage in having it thicker. Indeed, I think it possible that there may be some mistake or oversight in the case, and that in his own practice Mr. Scholl would prefer a thicker syrup in winter. I have had good results from using 5 pounds of sugar to a pint of water for late feeding, and I certainly would not want it any thinner to feed in winter. But it is much better to feed early enough for the bees to evaporate the syrup, giving equal parts of sugar and water.

I can not help thinking, too, that Mr. Scholl must have been using figures badly out of repair when he said on the same page that cakes of candy would be too dry if more than 4 pounds of sugar were used to a gallon of water. It would merely mean so much extra boiling, for no candy could result until more than ¾ of the water were boiled away.

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Salt as a Cure for Bee-Paralysis

On page 107, salt is given as a cure for bee-paralysis. Have others tried it? and is it reliable? Iowa.

Answer.—Yes, it is one of the numerous remedies offered long ago—offered like the others, with great confidence, but, equally like the others, failing when given further trial. It may be of some interest to inquire why it is that so many remedies have been given with confidence, only to fail upon further trial. Perhaps I may illustrate it in this way:

One year I had a colony troubled with bee-paralysis, and I painted my shop red. The paralysis disappeared entirely. But that hardly justified me in saying that red paint near the apiary was a sure cure for paralysis. The truth is, that except in the far South paralysis is likely to disappear of itself, and whatever cure is used before its disappearance gets the credit for the cure, when really the remedy had nothing to do with the cure.

Of course Mr. Johnson is hardly to be blamed for thinking salt a cure when the disease disappeared after its use, but the question is whether he will always find a cure to follow its use. I have had a number of cases of paralysis; I never tried any cure; but the disease always disappeared of itself, and for several years it has not appeared again.

It is also somewhat doubtful whether Mr. Johnson will continue his faith in salt as a remedy for bee-moth, after further trial and careful observation.

◆

What to Produce Honey—City-Lot Bee-Keeping

1. What is a good honey-producing crop?

2. If bees were kept in city lots, would they bother people passing along the street?

3. Which is better, Webster's fumigator or a bee-smoker for manipulating bees?

4. If it would be advisable to use a smoker, what size would you suggest?

5. Could you suggest a place, or several places, as near as possible to my home town, where I could obtain bees, or would it be practicable to have them shipped from a distant State? California.

Answers.—1. I suppose you mean what can be planted as a paying crop for forage or other purpose, and at the same time yield a harvest of nectar for the bees. The number of such plants is not so very great, and yet I don't know that I can give them all. Alfalfa, buckwheat, melilot or sweet clover, onions, beans, alsike, and white clover, and cow-peas, rape, and mustard, are all that occur just now.

2. Not if far enough away from the street, or if there is a high board fence between the bees and the street.

3. I have had no experience with Webster's fumigator, but can heartily recommend a good bee-smoker. No bee-keeper should think of getting along without something of the kind.

4. The larger sizes are better, the largest being none too large; although if you don't intend to do much with bees you can do very well with one of the smaller ones.

5. That goes beyond my knowledge, but by watching the advertising columns of the bee-papers you may find just what you want. It is not advisable to send a long distance for a full colony of bees, the express charges being so very heavy. If you can not get just the kind of bees you want near home, get whatever kind you can, and then you can change the stock by getting a queen of good blood by mail. It costs no more for a queen from the farthest part of the land than it does from the nearest, if she is sent by mail.

◆

How About Long-Tongue Bees?

Are there long-tongue bees? I can hardly swallow that. I think that is only a selling point for those who have queens for sale. I have a few colonies, and I intend to get a few queens this summer, so if there are any with spliced tongues, that is the kind I am after. Wisconsin.

Answer.—There can be no sort of question that there is a decided difference in the length of bees' tongues. Able men on both sides of the ocean have settled it by actual measurement, and at least some of them can have no possible interest in giving anything but the truth, unless they are bribed outright to lie—a thing that for one I can not believe. But don't make the mistake of thinking that the bee with the longest tongue must necessarily be the best bee. Other things being equal, the bee with the longest tongue is the best bee. But other things are by no means always equal. The bees that will store the most honey are the best bees, whether their tongues are long or short. But when you succeed in getting the best storers, it is just possible that they may excel in tongue-length.

◆

A Beginner's Questions

1. Last spring I bought a colony of bees. Then I purchased an extra hive (a Danzenbaker) to catch the swarm when it came out. Not knowing anything about hiving bees at that time, I made a mess of it in this way: I set the hive in place, with supers on over the brood-frames, leaving the cover off. I cut the limb with the cluster on, shook them into the supers over the frames, and clapped the cover on, and, as a consequence, they built combs over the frames in the empty supers. What shall I do with them? I want to get comb honey. Would it be all right to put a honey-board over these combs in the supers and let them have the whole lower two parts for breeding? or separate the two parts, and how?

2. Who can supply me with the best 10 frame chaff hive to be left over winter on the summer stands? Pennsylvania.

Answers.—1. Very likely you'd have pretty fair work to leave matters just as they are, putting super or supers on top when the harvest comes. Sooner or later, however, you will be likely to want those bees more fully under control, and out of that super. The probability is that the super is filled with combs and the hive-body at least partly filled. The thing to be done is to get a queen-excluder between the hive and the super, making sure that the queen is below. You will very likely have no trouble in prying up and lifting off the super, putting an excluder over the hive, and then setting the super over the excluder. But to make sure that the queen is below is the critical thing.

Wait till the colony builds up strong; then pry off the upper story. If combs are built between the two stories, it will be well to trim them off. Set the upper story back again, and blow down smoke into it. Have the smoker well loaded, and give it to them good and strong. After a time the bees will begin to run out below at the entrance. Let them. Don't stop till a pint or more have rushed out, and then quickly remove the upper story. Put the excluder over the lower story and over it the upper story or super. The great probability is that you have the queen below. In a week or so look and see if you find eggs and young larvæ below. If not, you must try again. Or, you can take off the super, drum the bees from it up into an empty box, and then dump them in front of the entrance, letting them run into the hive; 24 days later no brood will be left in the super.

2. That you can tell better than any one else by consulting the advertisements in this Journal a little later, sending for price-lists to those who are most convenient.

Reports and Experiences

An Experience of 1905

In November, 1904, I put one colony and a 4-frame nucleus into the cellar. They wintered well. The colony came out very strong in the spring of 1905. On April 9 I put out my bees for good. On May 28 I put supers on the colony of black bees. On June 9 I brushed all the bees into a new hive from the black or old colony, and was to put a queen with the brood, but she was dead on arrival, and so I waited until June 17 for another queen to arrive. Then I introduced her all right. On July 21 the black bees that were brushed on full sheets of foundation swarmed, and on July 23 I took out all the queen-cells and introduced an Italian queen. On August 31 the brood cast a large swarm, and the nucleus filled its hive by my giving it one frame of the brood, and it cast a very large swarm on July 18. From the old colony I sold honey to the amount of $5, and increased to 6 colonies from 2 in the spring. I put the bees into the cellar on Dec. 1, 1905, and to-day they are all right. I fed in the fall about 25 pounds of sugar. My bees are all Italians, having Italianized them last summer. D. B. BOYNTON.

Brownfield, Maine, Jan. 13.

A Very Poor Season

Last season was a very poor one for the bee-keepers of this (Green) county, with just honey enough in June to cause lots of swarming. I started the season of 1905 with 44 colonies, and put 68 into winter quarters in fair condition. They seem to be wintering all right so far. I had about one-fourth of a crop of surplus honey last season.

Albany, Wis., Jan. 15. FRED LOCKWOOD.

Results of the Season of 1905

In the spring of 1905 I started with 35 colonies. By dividing and swarming, together, I made 72 colonies. I ran 60 colonies for honey, which gave me 8500 pounds, 650 pounds of which was comb honey, and the balance extracted. In the fall, after the honey season was over, I bought 3 more colonies, which made 75. I then divided them and made 152 colonies. All are in fine condition.

I couldn't get along without the American Bee Journal, as it comes to our house every week in the year. W. H. RAILS.

Orange, Calif., Feb. 1.

Feeding Bees in Winter

I have seen considerable in regard to feeding bees in winter quarters, and I have done it myself with very poor success. About 10 years ago John Canell went into the bee-business in Dorset, Vt., and, being desirous of increase, had a late swarm come out the forepart of September. He hived them in a box holding about a bushel and fed them a little in the fall. When he put the bees into the cellar, he made a box which I should think was about 6 feet square, with glass on one side. He put it in the cellar on the south side of the house. When the hatchway doors were open the sun would shine right on the glass. He put his hive inside, and began feeding on warm days by holding a piece of honey near the hive and getting the bees on it, then putting it in one corner of the box. For the first few times they would cluster on the glass and he would take a dust-pan and return them to the hive. After awhile they would work on the honey in the corner and return to the hive all right. He fed until the hive was full, and then put them back with the rest of his bees.

The latter part of the next May I was driving by and saw him hiving a swarm of bees. It being so extremely early, I stopped to investigate. He showed me the box it came out of, and I turned it up and looked under and saw the brood capped right to the bottom. The rest of his bees were very poor. He showed me the box with the glass and comb in one corner, and I could see where the hive set in the box. Knowing the man, and from what I saw, I believed every word. C. M. LINCOLN.

West Rupert, Vt., Jan. 13.

An Experience with Winter-Cases

I started the fall of 1904 with 36 colonies of bees which had been wintering in an open shed packed on top with a chaff cushion in the super, though at the back there was 8 feet of straw, with straw between each hive and on top of the super. But I thought to better them, so got store-boxes and made outside cases like I saw at the Fair in St. Louis, and to make them extra-good I lined them on the inside with building paper. I thought I had them fixed up, and I did. But for some unaccountable reason I lost all of my bees except 10 colonies. Then foul brood broke out. I had that to fight all summer, but I got about 300 pounds of honey and increased to 20 colonies, which are under an open shed and well packed in forest leaves and straw. No more outside cases for me. My bees did not starve, as there was honey in every hive but one.

San Jose, Ill., Jan. 11. FRED TYLER.

Bees Wintering Well

We are having a very open, mild winter so far, the coldest being 8 degrees above zero. Bees are wintering well. Mine are packed in planer-shavings in winter-cases. But we had a very wet, cold fall, so I think there will be quite a loss through this section among the careless ones, as lots of bees were light in stores and in young bees also. I had to feed all of mine from 5 to 20 pounds each to put them in shape for the winter. We had a fair white honey crop, but no dark honey here the past season. There are not many bees here—only a few among the farmers. When I moved here last April, a number of the people had never seen any extracted honey, except as they squeezed it up—bee-bread, black combs and all, and hung it up in a cloth to drain out. H. F. STRANG.

Hesperia, Mich., Jan. 12.

Carrying in Pollen

My 17 colonies are wintering nicely so far. I had to feed them for winter. I have 6 in the cellar and 11 on the summer stands. We are having a fine winter so far. The bees get out every few days, but all colonies having no food will lose their bees. I took off only 50 pounds of surplus honey last season, as against 2300 pounds the previous year.

The bees are carrying in pollen this afternoon, which is just one month earlier than last year. A. J. FREEMAN.

Chanute, Kan., Jan. 18.

Getting Unfinished Sections Cleaned

On page 32 Mr. Hasty tells how he gets some partly-filled sections cleaned of their honey. In the hands of such experienced bee-keepers as Miss Wilson and Dr. Miller, the practice of Mr. Hasty's way would not, I suppose, be attended with any harmful consequences. I have practised it in a small way myself, but have refrained from saying anything about it, knowing that any extensive effort to get sections emptied in this way would lead to disastrous results in the majority of cases. A few sections with cappings bruised or removed may sometimes be safely put down at the entrances of a few hives late in the day, but to pile a lot of them on the alighting-board with the expectation that the bees of the hive will stand off a lot of robber-bees after the sun is well up next morning, would most certainly result in failure here.

I hope not many bee-keepers have bees like Mr. Hasty's and Dr. Miller's, that do not seem to know a sweet thing at certain seasons of the year, when given to them above the brood-chamber.

Please, Mr. Hasty, do not sling fire-brands around among inflammables any more.

Leon, Iowa. EDWIN BEVINS.

Poor Season for Bees

The bees did not do any good here last season. I had 32 colonies in the spring, and got 11 swarms during the season. I did not get a pound of surplus, and lost some 5 or 6 colonies. I then doubled back to 20 colonies, and fed about 150 pounds of sugar, so now they will go through all right.

Anderson, Mo., Jan 13. G. H. WELLS.

Bees All Right So Far

I am cellar-wintering 83 colonies, and so far everything is all right.

Last year wasn't a very good one for bees in this locality. We had a nice lot of clover honey, but the basswood failed.

The American Bee Journal has been quite a help to me. L. MATSON.

Withee, Wis., Jan. 18.

Perfect Section-Foundation Fastening Machine

A perfect foundation fastening machine must be simply constructed, and easily and rapidly operated.

It must hold the section securely in place while the starter is *automatically* and *accurately* centered.

The edge of the heated plate that comes in contact with the starter must not be permitted to touch the section or that part of the machine adjacent to it.

The device must fasten starters ¼ of an inch wide as readily as full sheets, and both, if desired, without soiling the section with dripping wax or smoky deposit from the lamp.

Heat from the lamp must be diverted from the operator, and all parts of the machine, except the movable plate, as much as possible.

The heated plate, when not in use, must be in such a position that any adhering wax will drip away from the working parts of the machine.

No device is complete that requires cleaning.

The ideal machine must be capable of securing starters in any and all styles of sections made, with but little change.

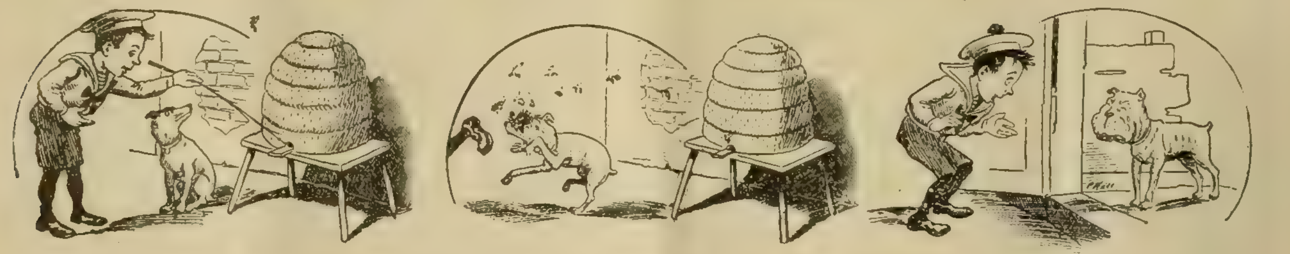
Any machine that is operated wholly or in part by a treadle is automatic *in name only*.

Berkshire Co., Mass. E. H. DEWEY.

The Season of 1905

The honey crop here in the northeastern part of the State was very light this year. Although the clover bloom was very heavy, there was but very little nectar in it. The weather was too unfavorable here last season. Rain and cold nights seemed to be the cause of it. If it was warm for a day or two so that the bees could work they were hustling, and then came the rain and cold again and they were laid up a day or two where they could gather nothing.

I started in the harvest with 50 colonies and 10 nuclei, spring count, and got 2100 pounds of honey—300 pounds comb honey and the rest extracted. All this was sold out before the middle of October, and on Dec. 1 I put my 78 colonies into the cellar and left 6 out-of-



HOW TO MAKE OUT OF A TERRIER A BULL-DOG.—German Bee-Paper.

doors, as the weather then made a change and turned too cold, and all indications were that it would stay cold, which it has done. However, there is quite a difference between last year at this time and to-day. It then was pretty cold, a little above or below zero, and lots of snow, and snow-drifts blocked the roads; while to-day (Dec. 29) the thermometer shows 34 degrees above zero in the shade, with about 2 inches of snow on the ground. So it seems that this winter will not be so severe on bees as the two preceding winters were.

Bees in the cellar seem all right, as they are quiet, and their merry hum is heard. I am looking forward to a good season next summer. On page 780 (1905), John Cochems, of Manitowoc Co., Wis., says he expects a heavy winter loss. He says we have had a bad fall here for bees. I think the fall, as far as weather goes, was fine, although there was not much honey for bees to gather and fill up their hives for winter. If stores were lacking, the bees should have been supplied with them. I see no reason for such fears. Please, Mr. C., tell us why you expect such heavy loss before spring comes again. I have been feeding mine 150 pounds of honey, so now I will be easy about it until spring comes.

Last summer I filled two Mason jars with honey and set them out in the sun as an experiment, to see how long it would keep liquid when cold weather came. But I have no data as to how long each one was left out in the sun, as I took them in the honey-house in the evening and set them out again when the weather was fine in the mornings. One was out longer than the other; and the one that was out the longer is perfectly clear as water to-day, and the other shows signs of starting to candy. I will try the experiment again next summer, and then will take data as to how long it is kept in the sun.

NORTHEASTERN WISCONSIN CONVENTION.

On Oct. 11, 1905, the Northeastern Wisconsin Bee-Keepers' Association held its annual convention at Mishicott. It was not very largely attended, but those present took an active part in the discussions and helped to make the meeting quite interesting.

After the call to order by the President, the annual dues were collected. Then followed the President's address upon marketing honey; then questions came. The first was, "How can we increase the sale of honey?" and it was thought by producing and putting upon the market an article of the very best quality.

Next a paper was read by Mr. Fred Trapp, on "Preparing bees for winter," showing the difference between cellar and out-of-door wintering. He said that in out-of-door wintering the bees should have sufficient packing to keep them warm and dry, and in some way be cared for so as to carry the dampness away from the cluster. Cellared bees should be prepared so as to carry off the moisture from the cluster, as well as those out-of-doors. Otherwise, it would condense in the hive and mold the combs, which would not be good for the bees.

Mr. N. E. France was with us, and gave a paper on "The Business End of Bee-Keeping," which was right up to the point, showing how much bee-keepers were lacking in business methods, and how best to manage so as always to be up and ahead of the times, and have everything ready for a good crop of honey when it comes.

All the old officers were re-elected: President, C. H. Voigt, of Tisch Mills; First Vice-President, Fred Trapp; Second Vice-President, J. Sedlacik; Secretary, Dr. J. B. Rick, of Mishicott; and Treasurer, John Cochems.

After this some other business was taken up, among which was the report of members as to bees and honey for 1905. Those present showed 283 colonies of bees, spring count, and 9725 pounds of honey; 1025 pounds comb, and the balance extracted.

With this closed another good meeting of bee-keepers which, I think, had lots of value for those that were present. The convention adjourned to meet at the call of the committee in 1906. C. H. VOIGT.

Tisch Mills, Wis.

Bees Did Fairly Well Last Season

My bees did fairly well last season. I started in the spring with 8 colonies, which increased to 13. I bought 10 swarms for $10, I furnishing the hives. I found two bee-trees, and saved the bees, and now have 24 colonies all in good shape as far as I can see. I had over 800 pounds of comb honey last season, for which I got 17 cents at the store, and 20 cents for what I peddled.

The American Bee Journal is my favorite paper. HARVEY CLARK.

Sullivan, Ind., Jan. 30.

CONVENTION NOTICE.

California.—The California State Bee-Keepers' Association will hold its 16th annual convention in the Chamber of Commerce, Los Angeles, Calif., Feb. 20 and 21, 1906. The meeting will be called to order at 1:30 p.m., on the 20th. Any one interested is invited to attend.

J. F. MCINTYRE, Sec.-Treas.

L. L. ANDREWS, Pres.

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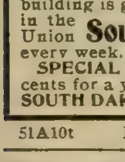

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A B C of Bee-Culture, by A. I. & E. R. Root.—A cyclopedia of over 500 pages, describing everything pertaining to the care of the honey-bees. Contains about 400 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 75 cents.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

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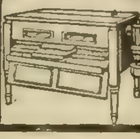

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Tin 4-in. Smoke Engine 3½-inch 3-inch 2½-inch 2-inch Wonder
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Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

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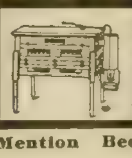

poultrymen all over the world. No guesswork. They are automatic in regulation and ventilation. Fully guaranteed to give YOU satisfaction. Send for free book. **BANTA-BENDER MFG. CO., Dept. 24, Ligonier, Ind**

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MAINLY FOR QUEEN-BREEDERS

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BREEDING QUEENS, after May 1st—Italian, Imported and Golden Italian, and Carniolan—$2.50 each. Orders booked now and filled in rotation. Send for free Circulars. **ARTHUR STANLEY, Dixon, Lee Co., Ill.**

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Last season, after we had tested "The Elgin" in every particular for the two years preceding, we offered it to the bee-keepers of the country. Although we did not advertise it until late in the summer, we put out a good many of them, and wherever used they gave entire satisfaction. There is nothing about "The Elgin" which is intended to increase the honey-production or perform other wonders. It is designed with the express purpose of saving the apiarist time and labor. When "The Elgin" reaches you the cover as well as the bottom is in one piece—NOT A NAIL TO DRIVE—and you can wait to put the sides and ends together until you need them, and unless the swarm has fully decided to abscond, you'll be there in plenty time—AND NOT A NAIL TO DRIVE. Then, too, if you want at any time to take "The Elgin" apart to store or ship you can do so, and it will not take any more space than so many boards.

We recommend "The Elgin" to you and guarantee it to the extent—money back if not satisfied.

We also sell the Dovetailed and Langstroth Hives, and a full line of SUPPLIES
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ELGIN, ILL.

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You can raise it and make money with our free 64-page poultry guide. It tells how to avoid mistakes and failures; tells what to breed for biggest profit; how to feed, rear and hatch successfully. Tells about Berry's "BIDDY" incubators and brooders, the kind that "run" themselves—the kind to buy. Contains plans for brooder, colony and poultry houses, yards, poultry farms. Also cuts of our pure-bred poultry with prices of birds and eggs for hatching. It's a book that will be appreciated by every one. 3c in stamps brings it to your home. **Berry's Golden Rule Poultry Farm, Box 72, Clarinda, Ia.**

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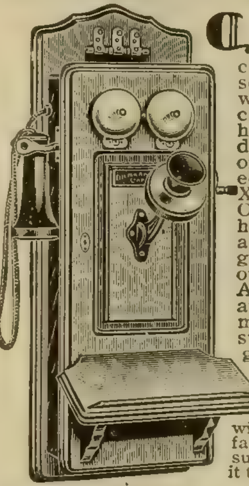

¶ "EACO" farm 'phones never miss. You can call up any subscriber no matter whether his receiver is on the hook or not, provided all the 'phones on the line are equipped with our X. P. Condensers. Our book explains how this is done and many other good features of our farm 'phones. All ",EACOS" are handsomely made, compact, strong, and cannot get out of order if properly used. Our new book "How to Buy a Farm 'Phone, will interest every farmer who wants to succeed. Write for it today, it's free.

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NASTURTIUM
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are the standard make for rural lines. Other manufacturers claim their instruments are as good—they like to compare theirs with Stromberg-Carlson—but TIME will not bear out their claims. To avoid trouble, expense and disappointment, pay the trifle more and get the telephone with a reputation. Buy the Stromberg-Carlson—you buy satisfaction. Free book, 80-D, "How the Telephone Helps the Farmer," tells a lot of reasons why it's the phone to buy; gives full description of every part and piece of a telephone; tells how it's made and illustrates where it's made. Write for the book today. Address
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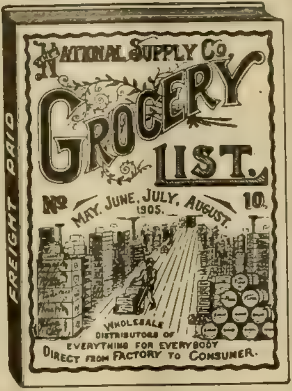
To save still another 10 per cent, become a member of the **Co-operative Society of the National Supply Co.** We'll tell you how to get this extra 10 per cent discount, if you will write for full information. An easy way to make money.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MAY, JUNE, JULY, AUGUST, 1905.
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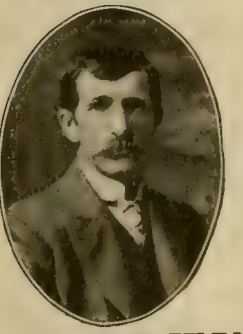

is covered by two Patents. With this wonderful invention the cost of making Sections may be reduced to $1.15 per 1000. If such Machine will interest you, write for further information. Do not write about it unless you mean business.

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My Catalog for 1906 is now ready for distribution. I am the Northern Headquarters for **Adel Queens and Bees,** and good, honest Bee-Keepers' Supplies. If you have not received my Catalog, write for it. Address,

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Time tested and proven success; thousands in use; sold direct to you at wholesale prices. You get the maker's guarantee and save the middleman's profits. The *Removable Chick Tray and Nursery*—a feature no other has—explained in catalog. It's *free.* Write for it today.

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Cash Orders for regular Supplies before February, 6 percent Discount.

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We buy BEESWAX at all times in the year. Send for our Catalog and "Special"—free.

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ROBERT B. McCAIN, Yorkville, Ill. R.F.D.
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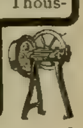

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Complete fire-proof hatching and brooding plant for $7.50. 2 qts. oil hatches 50 eggs and raises chicks. Catalogue free. **CYCLE HATCHER CO., Box 333, Salem, New York.**

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IN 60-POUND CANS

We have a good supply of **Pure Alfalfa HONEY** in 60-pound cans that we can ship by return freight at these prices: 2 cans, boxed, at 8½ cents a pound; 4 or more cans at one time, 8 cents a pound—all f.o.b. Chicago. Cash with order. Sample, by mail, 8 in stamps, to cover package and postage.

Address,
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Fresh Air applied to Artificial Incubation in a new and effective way, making possible higher per cent hatches, brighter, healthier stronger chicks.

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1st—The Standard Incubator. 2nd—An Incubator for Beginners. 3rd—Universal Hover and Colony Brooders. 4th—Feeding Chicks. 5th—What Users are Doing.

A PIANO BOX WILL DO

Put the Universal Hover into it and make your own brooder. The Universal Hover may be attached to any size or form of Colony house, mushroom house, small portable building or piano box and make about as good a brooder as money can buy. Write for catalog and the five books FREE. Others to follow, you'll get them all if your name is on our mail list.

Prairie State Incubator Co., 351 Main St., Homer City, Pa.

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Lowest Prices

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You will **SAVE MONEY BUYING FROM ME.**

Satisfaction Guaranteed.

Catalog mailed free. Send for same.

5 Percent Discount for February

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Feb. 7.—The demand is about normal with sufficient stocks to meet all requirements. The best grades of white comb honey bring 14@15c, with off grades at 1@3c less, depending upon color, condition and shape. Extracted, aside from white clover and basswood, (choice grades of which are practically unobtainable), is in ample supply at 6½@7½c; amber, 6½@7c, with off grades still lower. Beeswax, 30c.
R. A. BURNETT & CO.

TOLEDO, Feb. 5.—The market on comb honey at this writing is rather quiet, and prices have weakened somewhat. We are getting for fancy white comb, 14@15c; No. 1, 13@14c. Extracted white clover, in barrels, brings 6½@7½c; in cans, 7½@8½c, although the supply seems to be exhausted throughout the country. Beeswax, 28@30c.
GRIGGS BROS.

INDIANAPOLIS, Feb. 2.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8½c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

NEW YORK, Feb. 19.—The demand is fairly good for better grades of white, and while the near by crop is fairly well cleaned up, new arrivals are now coming in from Cuba, besides several cars have been shipped on from California. We quote fancy white at 15c; No. 1, 13@14c; No. 2, 12c; amber, 11c; buckwheat, 10@11c. Extracted in fairly good demand, especially California, of which there is abundant supply. We quote white sage, 6½@7½c; light amber at 6@7c, according to quantity; buckwheat at 6c per pound; Southern at 50@60c per gallon, according to quality. Beeswax steady at 29@31c.
HILDRETH & SEGELKEN.

CINCINNATI, Jan. 20.—The honey market is quiet. We do not offer white clover extracted honey on account of its scarcity; instead offer a fancy water white honey, in 60-lb. cans, 2 in a crate, at 7¼@8½c; fancy light amber, 7½c; other grades of amber in barrels at 5¼@6¾c, according to the quality. Fancy comb honey, 16½c.

(Bee-keepers, please observe the above are our selling prices of honey, not what we are paying.)

Beeswax, 30c, delivered here, for the choice, bright yellow grade.
THE FRED W. MUTH CO.

KANSAS CITY, Jan. 22.—The market here on honey is very dull now, as it always is this time of year; fancy white is selling at $3.00 per case; 24-section and amber is selling at $2.75. Extracted, 5½@6c. Beeswax, 25c per pound.
C. C. CLEMONS & CO.

CINCINNATI, Jan. 23.—The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5¼@5½c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c.
C. H. W. WEBER.

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When consigning, buying or selling, consult
R. A. BURNETT & CO.,
199 SOUTH WATER ST. CHICAGO, ILL.

Model Incubators and Brooders

Manufactured by CHAS. A. CYPHERS, and sold at his factory prices. Freight rates from Toledo will save you money. Do not be humbugged into buying a cheap machine. The best is none too good. Our illustrated Catalog free to any address. Ask for it.

GRIGGS BROS.
521 Monroe Street, TOLEDO, OHIO.

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20,000 lbs. Alfalfa COMB HONEY...

Very fine. Price depends upon how much you can use.

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THE FRED W. MUTH CO.
51 Walnut Street, CINCINNATI, OHIO.

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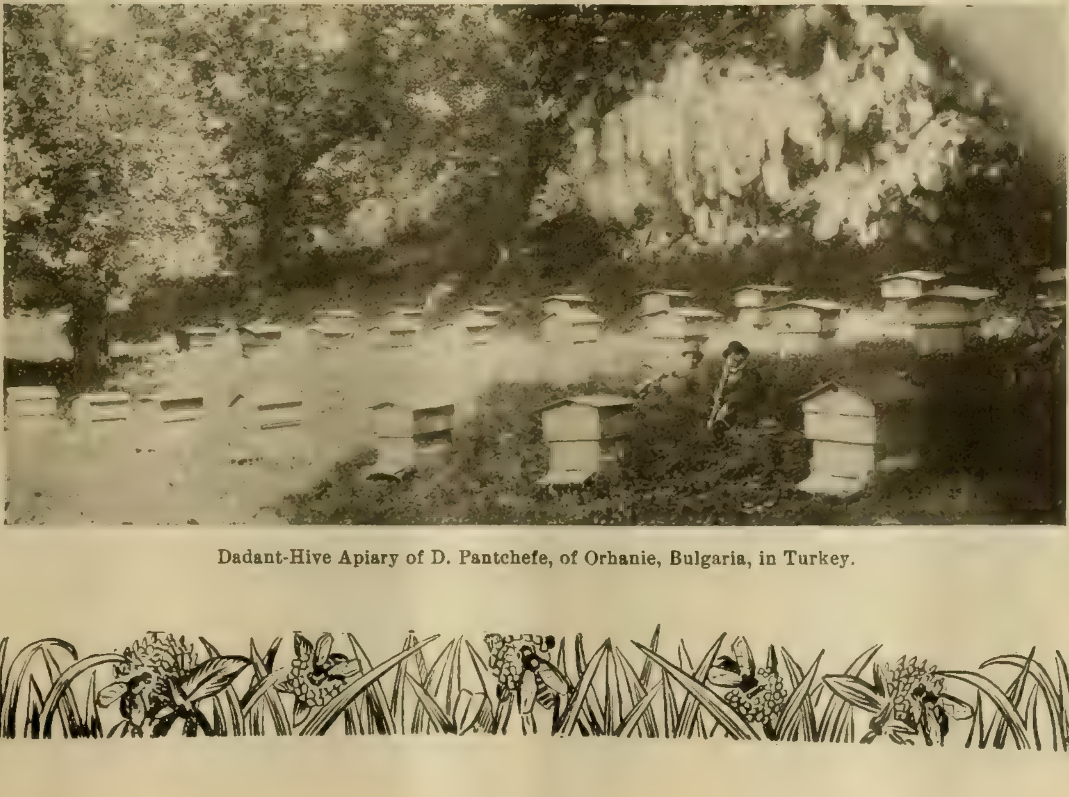
AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., FEB. 22, 1906 No. 8

Honey Exhibit of Chas. W. Sager, of Belma, Wash.

Mr. Frank Stoflet and Apiary, of Auburndale, Wis.



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THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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Contents of this Number

Illustrations—

Dadant-Hive Apiary of D. Pantchefe, of Bulgaria........ 1st Page
Honey Exhibit of Chas. W. Sager........ 1st Page
Part of F. Greiner's 1905 Honey Crop 159
Stoflet (Frank) and Apiary .... 1st Page
Supers Used by F. Greiner 160
White Sweet Clover........ 161
Yellow Sweet Clover........ 161

Editorial Notes and Comments—

Alfalfa-Growing in New York........ 158
Government Bulletin on Queen-Rearing........ 157
Sweet Clover on the Farm........ 158

Miscellaneous News Items—

A Mistake About Subscription Price........ 158
Apiary of D. Pantchefe........ 158
Example Worth Copying........ 159
Frank Stoflet and Apiary........ 158
Honey Exhibit of Chas. W. Sager........ 158
National Nominations........ 158

Contributed Special Articles—

Fences vs. Plain Separators........ 159
Sections, Separators, Supers and Section-Holders........ 159
Supers of Various Kinds........ 159

Southern Beedom—

Improvement of Stock........ 162
Sweet Clover as Forage for Stock........ 161
Sweet Clover (Melilotus alba)........ 161
Watch Your Colonies........ 162

Canadian Beedom—

Distributing the Caucasian Bees........ 162
Frame-Spacers and Spacing Frames........ 162

Our Sister Bee-Keepers—

Breeding from the Best........ 162
Stimulative Feeding........ 162

Mr. Hasty's Afterthought—

Catching the Prodigal Swarms........ 163
Didn't Like Nature's Hive........ 163
Difference in Percentage of Mismatings........ 163
Late Swarms North and South........ 164
Lumber Prices in Texas........ 164
Mr. Scholl and Those Bee-Problems........ 163
Space Under Solid Combs in Winter........ 163

Dr. Miller's Question-Box—

Cutting Small Soft-Maple Limbs in Spring for Sap for Bees........ 164
Gravel to Keep Down Weeds........ 164
Shade Protection........ 164
To Use or Not to Use Queen-Excluding Zinc?........ 164
Two-Pound vs. One-Pound Sections........ 164

Reports and Experiences—

About Half a Crop in 1905........ 165
Bee-Keeping in North Dakota........ 165
Bees Didn't Do Well........ 165
Cellar-Wintering........ 165
Cutting Section Foundation........ 165
Dampening Sections for Folding........ 165
Dealing with Queen-Breeders........ 165
Do Bees Move Eggs?........ 165
Favors a Shorter and Deeper Frame........ 166
Improving American-Italian Bees........ 165
Results of the Past Season........ 165
Results of the Season of 1905........ 165

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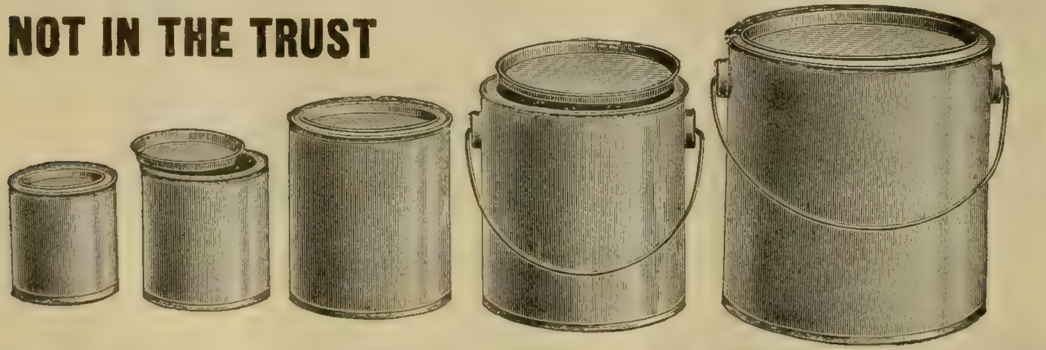

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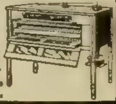

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AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

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GEORGE W. YORK, Editor — CHICAGO, ILL., FEBRUARY 22, 1906 — Vol. XLVI—No. 8

Editorial Notes and Comments

Government Bulletin on Queen-Rearing

"The Rearing of Queen-Bees" is the title of Bulletin No. 55, issued by the U. S. Department of Agriculture, Bureau of Entomology, Washington, D. C. (Price 5 cents.) It is written by E. F. Phillips, Ph. D., the man whose delightful personality made him so many friends at the late convention of the National at Chicago. It is gotten up in the usual excellent style of present-day Government documents, and is illustrated by 17 fine photo-engravings, all of them original.

In the nature of the case there is no great chance for originality, but it is a convenience to have given in compact form in these 32 pages, witten in easy style, the steps necessary to rear queens according to the latest methods, including the Doolittle and Alley plan, cell-cups, nuclei, etc.

In the preface the author expresses the hope that the simplicity of the methods described will induce bee-keepers who have not already done so to adopt in the future the plan of replacing all queens annually, saying: "It is held by the best bee-keepers that it is necessary to restock all colonies with new queens every year." That leaves out of the list of best bee-keepers such a man as G. M. Doolittle, who not only does not interfere to change queens each year, but goes so far as to think it not worth his while to do so at all. Nor is Mr. Doolittle without company. Of those who think it best not to leave the work of superseding entirely to the bees, by far the larger part probably do so only every other year, and certainly some of them are successful men.

Under the head of swarming, it is said, page 9, "When the queens are about ready to emerge from the cells, the old queen and part of the colony leave to establish a new one." Which puts something of a strain on the word "about," as it is generally "about" a week from the issuing of the swarm till the emergence of the first queen.

The correctness of the work, however, is proven by the fact that these two points are perhaps the only ones in the whole work likely to be challenged by the reader.

There is just a possibility, however, that tradition has been held in too great veneration when under the head of superseding it is said, page 10, that when the first young queen emerges "an encounter ensues between the young queen and the old one, and almost invariably the latter is killed." The old belief was that no queen would ever tolerate a rival, but of late years it has been found a not uncommon thing for mother and daughter to be found laying side by side. If a young queen may indulge her mother in a longer lease of life while that mother is still active enough to lay, is it not likely that cases are still more common in which the failing mother is tolerated after she is past service? Some might even have the temerity to ask, "Is there anything beyond tradition to support the belief that a queen ever kills her own mother?"

Those who have felt anxious for the character of queens where a large number are started, as by Cyprians and some others, will be reassured by the following on page 15:

> "No fear need be entertained by the queen-breeder that races producing large numbers of queens necessarily produce poorer ones. Any one familiar with the prolificness of the queens of these races could not hold such an idea. There is no evidence that under these circumstances the larvæ are less well fed."

With regard to the second mating of queens, the following on page 28 is interesting:

> "Frequent cases have been reported of queens which have mated more than once, and this probably accounts for irregularity in the markings of the offspring of some queens. It is claimed by some that obviously the first mating must have been unsuccessful, but there seems to be no ground for that view, and there is no reason to believe that both matings were not complete. There is no reason, whatever, so far as is known, why a queen can not receive a supply of spermatozoa from two drones, and some of the arguments to the contrary, with no basis of observation or knowledge of the anatomy, are not worthy of consideration."

The following nugget of wisdom from page 30 should be heeded by every bee-keeper who desires to increase his take of honey:

> "The mere fact that mating takes place in the air, out of the control of the bee-keeper, is no reason why care should not be taken in the selection of drones which are allowed to fly in the yard. When breeding any race—Italians for example—it is not enough that all the drones be Italians, they should be selected as to honey-production of the workers, prolificness of the queen, or any other quality which is considered in choosing a breeding queen."

Pear-Blight and Bees

In some parts of the country a rather vigorous warfare has taken place between fruit-men and bee-men because the former accuse the bees of spreading that foe—pear-blight—which causes such havoc in pear-orchards. Indeed, the horticulturist looks upon pear-blight much the same as the bee-keeper looks upon foul brood. There is little doubt, at least in the minds of bee-keepers, that the bee is not so guilty in the spread of the disease as charged; but, in any case, and especially as the pear is a honey-plant, it is of interest to know that there is an easy way by which the tree may be made more fit to resist the attack of the blight.

A very able paper on the subject was read by Mr. J. E. Johnson before the Galva Farmers' Institute, and published in the Galesburg Evening Mail. It would be out of place to give the whole of the paper here, but the nub of it is that a liberal application of wood ashes supplies the tree with those elements that enable it to resist to a great extent, if not entirely, the attack of the blight. Simple, and easily within reach of every one.

Mr. Johnson emphasizes his confidence in the remedy by his closing paragraph:

"I have trees that blighted 6 years ago, but by giving liberally of wood ashes they have not shown a single twig of blight since, and have borne several crops of nice pears."

Sweet Clover on the Farm

One believes more easily what one wants to believe, so when bee-keepers speak favorably of sweet clover as a forage-plant their testimony is likely to be received with a grain of salt. The following, from the National Stockman and Farmer, shows how it is viewed, not from the standpoint of a bee-keeper, but of a farmer:

Last summer there was some discussion of the value of sweet clover. Director F. E. Dawley, of the New York institutes, tells me that he has been seeding sweet clover in his pear-orchard for 9 years, sowing in the summer, harvesting the growth of hay in the fall, and plowing the ground in the spring. It is not palatable till cured into hay, but then it is eaten readily by his stock, and is nearly as rich in protein as alfalfa. There is a little more woody fiber in it. The variety used is the white sweet clover, the yellow making a ranker growth of less palatable feed. The growth should be harvested while tender, like alfalfa. The experience of Mr. Dawley confirms the belief of some others that sweet clover has a big feeding value, and live stock will learn to like it, and thrive upon it when properly cured. Some animals learn to eat this clover green, when the plants are young and tender, but this is unusual.

Alfalfa-Growing in New York

Alva Agee, the able correspondent of the National Stockman, tells in that paper about a miracle of man's making, which "consists in the doubling in value of many thousands of acres of land in an ordinary limestone bluegrass hilly country by seeding to alfalfa." Some pieces are of 40 years standing. It is in Onondaga Co., N. Y., the home of G. M. Doolittle and other prominent bee-keepers. In a region where 90 percent of the farmers are producing alfalfa, it ought not to be a hard thing to say whether the bees get any good from it. Until somewhat recently it was held that alfalfa yielded no honey east of the Mississippi. Will Mr. Doolittle, or some one else, kindly inform us how the matter stands in Onondaga County?

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

Miscellaneous News ✣ Items

National Nominations.—The Fillmore Co., Minn., convention, met at Preston, Feb. 8 and 9. This Association are also members of the National Bee-Keepers' Association. They passed the following resolution at their recent meeting, and instructed their secretary, Mr. P. B. Ramer, to send it in for publication:

Resolved, That the nomination for officers of the National Bee-Keepers' Association be made by a referendum vote, the man having the largest vote being considered the nominee of the Association.

Honey Exhibit of Chas. W. Sager.—This, as shown on the first page, was an attempt to engrave from a very poor photograph. It will be seen how unsatisfactory the result is. Accompanying the picture came the following:

I send a picture of the exhibit made by Mr. Sager at the Inter-State Fair at Spokane, Wash., which lasted from Oct. 9 to 16, 1905. Mr. S. is standing by his exhibit. He was fortunate in winning the blue ribbons on both comb and extracted honey at the State Fair, and the blue ribbon on comb honey, and red ribbon on extracted, at the Inter-State Fair. GRACE W. SAGER.

Frank Stoflet and Apiary.—When sending the picture reproduced on the first page, Mr. Stoflet wrote as follows:

I send a picture of my apiary and myself. There are 85 colonies in it. I have another apiary of 50 colonies. The house seen in the picture is where I used to winter bees. It has double walls, with 2½ feet of planer-shavings between. Owing to the walls being too thin I could not maintain a high enough temperature, so I abandoned the use of it as a winter repository. I now winter the bees in a cellar, with far better results.

The picture is some of my own photography.
FRANK STOFLET.

The Apiary of D. Pantchefe, of Orhanie, Bulgaria, in Turkey, appears on the first page. Mr. C. P. Dadant met the owner of this apiary at the home of Mr. Bertrand, the well-known editor of the Revue Internationale D'Apiculture, during his trip to Europe a few years ago. Mr. Pantchefe was in Switzerland visiting one of his intimate friends—a student at the University of Lausanne. He then informed Mr. Dadant that the Dadant hive and methods were well known among the educated classes in Bulgaria, and that he himself has several apiaries of Dadant hives. The photograph was later sent by Mr. Pantchefe to Mr. Dadant. The hives shown in it are all Dadant hives.

A Mistake, there appears to be, as some of our subscribers seem to understand that they can get the American Bee Journal through the National Bee-Keepers' Association at 75 cents a year. This is entirely wrong, as we have not made such price to the National. We do not know how the report was circulated, but it certainly is a mistake. One subscriber wrote that unless he could get the American Bee Journal at the 75-cent rate as offered by the National Association, he should feel that we were discriminating against him. We publish this paragraph so that there may be no further misunderstanding concerning this matter. So far as we know, the National Association is not a subscription agency, and so does not handle subscriptions for any of the bee-papers. It has an entirely different field to work in. We do not think it has ever quoted any 75-cent rate for the

American Bee Journal; if it did so, it was without any authority from us. We are satisfied, however, that there is a misunderstanding. We trust this explanation will be satisfactory.

An Example Worth Copying.—Wm. Stolley, of Grand Island., Nebr., is one of the staunch friends of the American Bee Journal. On Jan. 29 he sent us a new subscription, and among other things wrote as follows:

> EDITOR YORK:—I hope that every subscriber for the "old reliable" American Bee Journal will send you this year at least one new subscription, and thus show, *practically*, their appreciation of it. I have done this for a number of years, and wish I had been able to do more.
>
> WM. STOLLEY.

If every one of our present subscribers would follow Mr. Stolley's good example within the next 30 days, of course our list of readers would just be doubled. Then if another year it could be repeated, we would have the largest list of real bee-keepers to a real bee-paper that there is in the world. Surely this is worth striving for.

But there may be some of our readers who could not possibly get even one new subscriber, and yet perhaps in such cases they might make a present of a year's subscription to some bee-keeper friend in some other locality or State. After the first year, very likely such new subscriber would renew, and perhaps himself secure another new subscription for the American Bee Journal. If it could be worked something like the chain-letter system that was in vogue a few years ago, and if it would prove as successful as was that plan of increase, it would be a great thing, not only for us, but for all the readers of the old American Bee Journal. For if we could have several times as large a list of regular subscribers as we have at present, we could add a number of new features and improvements that would be possible with the increased receipts received from subscriptions and advertising. In the meantime, however, we mean to give the biggest and best dollar's worth of bee-literature every year that we can possibly afford.

Please don't forget Mr. Stolley's good work for the American Bee Journal. We hope as many as possible of our present subscribers will see if they can not "go and do likewise."

Contributed Special Articles

Sections, Separators, Supers and Section-Holders

BY F. GREINER

WHILE we were casing our comb honey last fall, many things suggested themselves having close bearing on our pursuit, and it might be well, and of benefit to others, to jot these down on paper.

Our attention was first drawn to the sections themselves. We had bought sections of an untried firm last season. We thought we were saving a few cents on a thousand, but found that we had made a very big mistake. In the first place, the lumber used for the sections must have been green, for they were minus that glossy finish which we have admired in sections bought of late years from the large manufacturers. The outside part of the sections was fuzzy, and it was impossible to touch them without leaving "*finger-marks.*" Dust and dirt adhered to them very tenaciously, and a sandpapering machine would have come very handy to improve their appearance.

After casing this honey and comparing it with honey in sections from the previous year, we have resolved not to be too saving again when purchasing our supply of sections. Before giving our order to a new firm we should want to see their work, and insist on a guaranty that the sections sent us must be No. 1 in every respect.

It is our aim to purchase our supplies early, in order to obtain the greatest discount, but I would not want to send the cash for the whole amount with the order, when ordering from some new firm. Other faults of the sections I will not mention here at this time.

I have two different kinds of sections in use—the 4x5 plain, and the 4x5 bee-way. In taking the honey out of the supers and scraping the sections, I found I could handle more of the no-bee-ways in a given time, other conditions being the same. Still, this difference did not amount to much. Generally speaking, I prefer the bee-ways, but have more of the no-bee-ways in use. I have decided not to increase my stock of no-bee-way supers.

FENCES VS. PLAIN SEPARATORS.

I have failed to discover any difference in favor of fences, as against plain, solid separators when both are of wood. It is my opinion that if we wish to enjoy any benefits in this line we will have to adopt a separator that is all "*hole*," or practically so. The Betsinger wire-cloth separator, with ¼-inch mesh, would perhaps fill the bill better than anything else in use. It is my opinion that this separator will be tested and adopted by many comb-honey producers in the near future. It is more expensive than any other separator, but it is enough better to justify the extra expense. If any manufacturer had pushed this separator as other more inferior ones have been pushed of late years, I believe that it would take the lead to-day. A wholesale way of manufacturing it would, in all probability, reduce the cost very materially. I hope that time will soon be here.

Part of F. Greiner's 1905 Honey Crop.

SUPERS OF VARIOUS KINDS.

Which super is the best, the most convenient, and gives the least trouble in the bee-yard and in the honey-house? This question has impressed me as one of very great importance. It comes up again and again during the time of casing honey. It seems a matter difficult to explain, that bee-keepers use—continue to use—such unsatisfactory comb-honey supers as are sent out universally by the manufacturers. I should think they would "bolt." I have numerous different supers in use, not only one or two of a kind, but 20, 30 or 50 of a kind. This gives me an opportunity to test each one's merits.

We may divide the different supers into three classes. One class protects the section all around; the second class leaves the tops unprotected; the third class protects only the sides, but leaves the tops and bottoms exposed to the bees. Some of these classes may be subdivided again, for there may be a bee-space at the ends of the section-holders, or the sections may be close-fitting. Supers with the latter kind should be rejected to begin with, for that end of the section which touches the outside case is seldom as well finished as the other end. The illustration shows one section which was taken from such a super, and any one can easily tell which part of the same came next to the outside of the section-holder and outside of the case. Had there been a bee-space between the section-holder and super wall, this section would have been sealed clear to the wood, and all around. (See picture on next page).

That super which gives us the cleanest sections when filled, gives us the least trouble in removing the filled sections from it, and can not be easily disarranged when handling it in the bee-yard before or after going on the hives—in other words, may be handled roughly without serious results. That super suits us best, provided perfect honey is produced in it.

Candidly, now, is there a super offered for sale by any of our manufacturers to-day that can make such claims? Not that I know of! The very best of them have a section-holder with no top-bar—many have no bee-space at the ends and around the holders. Some use a section-holder which contains only 3 sections, going the short way of the hive. This latter arrangement brings one end of two-thirds of the sections in close contact with the super walls. If the section-holder were the long way of the hive it would hold 4 sections. This arrangement brings one end of only half of the sections in close proximity to the super-walls, and is the best we can do.

With a bee-space at the end, and perhaps a double bee-space at the sides, we have a super that will be free from the defects mentioned above, and will give us sections uniformly filled and sealed. If in addition we give the section-holders a top-bar, and thus keep the tops of sections clean, it will seem to me that we need not seek for anything better. Such a super would be called a wide-frame super, and is the most practical of anything I have ever used or seen, or have seen described.

Some bee-keepers who have had no experience with wide frames are afraid there may be difficulty (?) in taking the filled sections out of them. If they had had any experience, they would have found it a great deal easier than to take the honey from T-supers, and just as easy as taking the sections out of the section-holders with no top-bars. There is no super on earth that gives us more trouble than the T-super. I find it impossible to "get the sections out" without setting a large percent to leaking. I have used them for 20 years, and have followed the instructions given by many on how to empty a super, but have not yet learned the trick, or a better way than carefully to remove one section after another with the super right side up and follower removed. The difficulty lies in loosening the section from the T-tin, which can not always be accomplished without cracking the honey. I can generally remove the honey from 4 wide-frame supers in less time than from one T-super, and do it without breaking or cracking a single section.

The cleaning and scraping is equally more expeditious with sections from a wide-frame super. Dr. Miller, some time ago, claimed in this Journal that the bottom-bars of wide frames were apt to sag slightly, and the bees then had a detestable way of crowding bee-glue into the space between the top of the section and the top-bar of the wide frame. This shows that Dr. Miller has had some experience along this line. It must be he has used wide frames, and the wonder is that such an insignificant matter could induce him to abandon the wide frame for the most worthless super ever invented. If I were bound to use the T principle, I would at least abandon the long T tins, and, instead, rivet little ⊥ tins to the separators, as shown in the picture herewith. This arrangement makes the separator the supporter of the sections instead the T-tins, and reduces the bearing surface between the supporting tin and the wood of the sections to a minimum, and also reduces the number of pieces of the super. There is no difficulty whatever in removing filled sections from such a super.

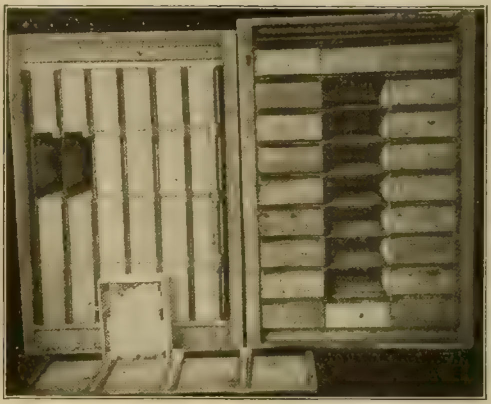
I have some 25 or 30 on hand, which I would sell cheap to Dr. Miller, or to any other man, together with that many more regular style T-supers, for I have decided not to use them again. They hold 24 no-bee-way 4x5 sections, and are well painted. I object to them because they are so frail, and have to be handled so very carefully or they are out of order before we know it.

The regular T-super is still more objectionable on account of the space between the rows of sections at the top of the super, caused by the T-tin at the bottom. To fix things right, thin strips of wood must be inserted to prevent an undue amount of propolis being run in between the ends of the sections. But as every one well knows, the principal drawback to these supers is that the tops and bottoms of the sections become very badly soiled. Only a sandpapering-machine can ever make them presentable. The sections from such supers as have a bottom-bar for them to rest on, at least keeps the bottoms clean, and by casing bottomside up, our cased honey presents a tolerably fair appearance. But the T-super does not give us even this advantage. The tops and bottoms are both badly besmeared, and when the honey is cased, even after we have done a big lot of scraping, it looks unsightly.

Let Dr. Miller examine the two pieces of sections which I mail him to-day, and tell us which he would rather clean up—the one from the T-super, or the one from the wide-frame-super. All my sections from T-supers and open section-holders were as badly besmeared last year as the one I send him. The photograph shows how badly this is.

The sections which come from the wide frame supers may have little ridges of bee-glue along their edges, but this may be removed very easily with a few strokes of a knife.

The sagging of the bottom-bar of a wide frame holding 4 sections is of very little consequence, and may be almost wholly prevented by a heavy bottom-bar. Those I use are too thin, as they are only ¼-inch thick. I should now make the top-bar and bottom-bar of equal thickness, but not more than 5-16 thick. I would not expect very serious trouble with such; in fact, I don't experience very much trouble with them as I have them now. Occasionally I have to take off a bottom-bar and turn it over before nailing it on again.


Supers used by F. Greiner.

A serious fault of the fences is that they are not a permanent fixture. Many a time the bees widen the spaces the first year to such an extent as to cause the finished honey to show that "wash-board" appearance. Fences should be made of beach or maple wood—hard wood, at any rate; then they would last; I have fences in my rubbish heap which were nearly eaten up by the bees. Many others have lost the little cleats. It seems the furniture-glue is not as strong as the bee-glue. These things do not tend to bring fences into greater favor with me.

In constructing a wide-frame super, it is a question whether the separator should be nailed to the frame or should be a separate fixture. Each method has its advantages. If the wide frame can be filled with sections before putting in the foundation, it would be an advantage. Mr. Betsinger manages precisely as Mr. Getaz describes on page 843 (1905), filling the sections with foundation, but has the advantage of handling them in fours. Even should his sections not fold exactly square, they are held in shape by the wide frame, and by having the 4 blocks of wood nailed down on a board just right, the wide frame with its sections may be laid on them, and the foundation adjusted and fastened on by use of melted wax. This way of fastening foundation into sections may appear meritorious to some. I have, for the sake of the experiment, tried it, and luck would have it that the so-produced honey found its way into the culinary department of our house. A heavy hatchet was required to knock it out of the sections, and I don't doubt Mr. Getaz in the least when he says that such honey may be shipped anywhere; but I timidly ask, Do we produce honey for the Hottentots in South Africa, or for the civilized people of America? I advise those who can not produce an *unobjectionable* article for human food profitably, would better get out of the business.

At present prices we *can* produce comb honey without comb foundation at a profit to ourselves, and it will not be necessary to depend upon the trade "among the gilded parasites of high finance," as Mr. Atwater puts it in a November bee-paper. If we can not supply all the comb honey that is wanted, extracted honey, I fancy, will come to our rescue, and the masses would only be the gainers. Let us produce a pure, wholesome article of comb honey, or not say any more about adulteration of syrups, honey, or other food products.

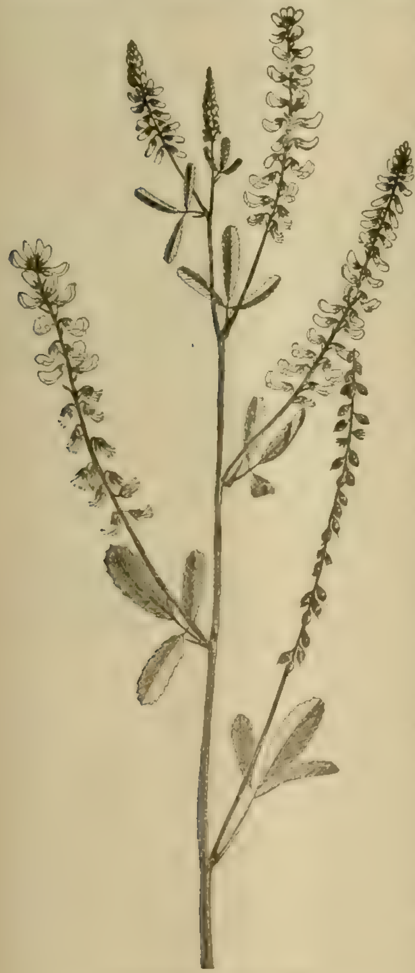
Ontario Co., N. Y.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Sweet Clover (Melilotus alba).

For years I have been interested in the matter of growing sweet clover as a forage crop for bees. In many places of the South there are dearths of honey, and long ones, sometimes, and in some localities, between the spring and fall flows, which are very serious, the bees sometimes starving during such dearths unless feeding is resorted to. There are serious objections to having to feed at these times, too, as unnecessary brood-rearing results, besides using up a large quantity of food. A good many different methods have been tried, but all are a great deal of trouble. If enough stores are left in the hive after the spring flows to last the bees through the dearth, it is all used up in breeding, and before the dearth is over the stores are gone. A practice that has worked quite well has been to save this amount of stores in combs *away from the bees.* That is, to keep combs of sealed honey from the spring flows stored away in the honey-house. These combs are then given one at a time at intervals during the dearth as needed. But this takes an immense amount of labor, and trouble from the wax-moth to the stored combs is a serious one in our warm climates. Then, it is often a hard matter to give combs at the right time without stirring up robbing.



WHITE SWEET CLOVER.

After visiting some of these localities, and consulting with bee-keepers there, I have come to the conclusion that it is *very probable* that this trouble of tiding the bees over these dearths can be accomplished by planting suitable forage crops for them, that will come into bloom and yield nectar during the time when nothing else does. To take this matter up properly it was, of course, necessary to find when the spring season closes and the dearth begins, the length of the dearth, and the opening of the fall season. This differs somewhat in different sections, and in different States of the South, also depending very largely upon the existing flora. For an average, however, I believe we would not go amiss very far if we take the following dates:

The spring flows or season closes about June 1. Then the severer period for the bees sets in, and there is absolutely nothing for them to do. This lasts, in the cotton-growing belt, until cotton begins to yield nectar—about July 15 to Aug. 1. From then on to frost cotton yields, sometimes giving a good surplus. Fall flowers also yield, especially if sufficient rains have prevailed.

It will be seen from the foregoing that there is a period of about two months of absolute idleness, and this during the warmest part of the season when bees could be most active. The bees do not realize the danger of starvation ahead of them, and keep on breeding and use up all the stores long before the dearth is over and cotton begins to yield.

In my calculations I found also that the blooming period of sweet clover just covered the above gap. It begins blooming about June 1 in most localities, a little earlier in others and more protected situations, and depending also upon the season and weather conditions. Yellow sweet clover (*M. officinalis*) is said to be earlier than the white variety, and I also got this information from M. A. Gill, of Colorado, while visiting his apiaries, where I saw it in full bloom. Either variety, however, would cover the period of the dearth, as the melilotus blooms until frost in favorable seasons, while it is in bloom during June, July and August in others.

Sweet clover grows well after it has a start, and waste-places, even in the poorest soils, could be planted to such forage crops for bees, especially since there are thousands upon thousands of acres of just such waste land in our Southern States. Our fence-rows would be worth thousands of dollars to us if sweet clover grew where rank weeds of no use whatever to us grow now. Besides, this would create a yield of nectar just at a time when it would be most valuable, and when nothing else is in bloom.

YELLOW SWEET CLOVER.

Some people seem to fear it as a noxious weed, hard to kill out of a field, and that it spreads rapidly. This, however, I find not the case with all the plots planted at our Apiary Experimental fields. A single plowing killed it just as easily as any of the weeds that grew with it, and there is little danger of it spreading out of bounds. In fact, I could not get it to spread fast enough for me. The plant grows well in most of our black land sections, and has been tried at several places. I have seen it grow luxuriantly on dry, doby hills, too.

Sweet clover honey is good, quite light in color, and of very good flavor. The bees work busily on the bloom from early till late.

This matter should be taken up and studied by our Southern bee-keepers. Our annual yield could be greatly increased.

SWEET CLOVER AS FORAGE FOR STOCK.

It has often been repeated that stock and cattle disliked sweet clover, and that it was a *worthless weed* and not worth anything as a forage crop. In this the people were evidently mistaken or they "didn't know," for I have seen animals eat it quite readily, both in pasture and as hay. The following by J. A. Green, in Gleanings, is so well to the point that I give it here; he seems to be criticising Prof. A. J. Cook for this same reason:

> "Prof. Cook's remarks on sweet clover, page 1121, should perhaps teach me to have a little charity. In my own experience, those who have talked that way have generally been lacking in the faculty of observation, and I have usually been able to show them that they were mistaken. For instance, a cousin once came to visit us. The talk turned upon sweet clover, and she said: 'But it is such a perfectly worthless thing. Nothing will eat it.' I at once invited her out to the barn, where her horse was eating sweet clover hay with a very evident relish. He had never had any before, but he ate it greedily; and after he was hitched up to go away he paid his respects to a

tempting wisp of sweet clover hay in a way that showed plainly what *his* sentiments were. I have never had a horse or cow that would not eat it readily without any teaching, especially when made into hay; but I know that some stock do not take to it readily at first. This does not prove that it is not good forage. Cattle feeders tell us that stock just brought in from the range often refuse to eat corn, and they sometimes have considerable trouble to get them to make a start on it; yet I never heard any one argue from this that corn is distasteful to cattle, or that it is not good feed for them."

Watch Your Colonies

Keep your eyes or ears on your bees, or the colonies, anyway. It is a good time to watch your colonies for stores now, especially since brood-rearing is under way.

Improvement of Stock

Improvement of stock is a great thing. If our bee-keepers would only spend half as much time over this question as they do over some other things, the whole bee-keeping world would be better off. Better bees, with better bee-keepers, of course, will mean increased yields—larger returns, and greater profits.

New blood should be procured and introduced into the yards. Some good breeders, and then some *good breeding*, would make it possible to produce honey-gathering strains that would be profitable to their keepers.

Canadian Beedom

Conducted by **Morley Pettit**, Villa Nova, Ont.

Frame-Spacers and Spacing Frames

Dear Mr. Pettit:—Your words on spacing frames, in the American Bee Journal, interested me, as nearly everything on that subject does. In regard to the so-called "Alpaugh" spacing device there illustrated, the only new idea in it is the form of the end-spacer, and combining the end-spacer with the pin under the projection of the end-bar. Spacing by notches in the rabbet, and a pin (headless nail) under the top-bar projection was described in the American Bee Journal years ago. The scheme might be excellent, but when we put on the extracting supers we can't afford to use close spacing, so we use 8 combs in a 14¼-inch space—never more than 9; then our "advantageous" spacer is useless, and worse—the frames are now *raised* perhaps one-sixteenth of an inch or more, as the wires no longer rest in the notches; and if we don't use a quilt there is not sufficient bee-space over the frames, and you know what that means.

If it were perfectly practicable to use the same spacing in both supers and brood-chambers, that would really be an excellent device, but inferior to either staple or Hoffman frames, in that one can not shove over two or more frames *en masse*.

How *you* manage to "take no thought of spacing" in the extracting supers I don't see, unless you have staples driven so as to make a wider spacing in the supers, and then never interchange frames above and below. I think the Hoffman frame superior to any of these make-shifts.

Meridian, Idaho. E. F. Atwater.

It would be interesting to know the exact date when spacing by notches in the frame-rests and pin under top-bar lug was first described in the American Bee Journal, and by whom. Mr. Atwater's objection to its use in the super can be overcome by having the super-frame rests notched for wide spacing.

The main objection I see to the system is the next point he mentions—"that one can not shove over two or more frames *en masse*." Barring that and the necessity sometimes to space close in the super, I consider it the best spacer I know of.

My "taking no thought of spacing in supers" means, in one yard combs with staples driven for wide spacing, and no exchanging with brood-chamber combs; in other yards it means, close spacing in the super, which is objectionable. We can only choose the system with the most advantageous and fewest objectionable features. The spacer shown by the A. I. Root Co. at the National Convention would, I think, be better than staples or Hoffman frames.

It materially strengthens the lug of the top-bar, which more than counterbalances the danger of the metal to the honey-knife. It does not provide for propolis like the Hoffman, and allows combs to be handled in bunches better than staples. It does not provide for wide spacing in the super, unless a different size of spacer be used on the super-combs. With the latter, super-combs could be put in the brood-chamber occasionally, and probably as often as that should be done. So, all considered, and judging by theory based on general experience, as I have never used the new Root spacer, it may be a good thing.

Distributing the Caucasian Bees

Editor Canadian Bee Journal—

Dear Sir:—Unwisely, I think, and so do many others, the Department of Agriculture, Washington, D. C., is arranging without a thorough test to distribute the Caucasian bee. Mr. J. B. Hall condemns them strongly, and says after 23 years' effort to stamp them out their objectionable traits at times crop up in the apiary. Would it not be well for Canadian bee-keepers to suppress their curiosity and let the United States distribute them. We can wait a season, and may keep ourselves from introducing at different points through the country what may be as objectionable as the English sparrow.

R. F. Holtermann.

So say we all.

Our Sister Bee-Keepers

Conducted by **Emma M. Wilson**, Marengo, Ill.

Breeding from the Best—Stimulative Feeding

Dear Miss Wilson:—Bee-keeping is "so full of a number of things," and so many interesting points have been raised in the American Bee Journal lately, that one hardly knows where to begin or end in writing. However, as you are always so willing to answer our questions, perhaps I would better begin by answering yours (page 903—1905).

I began in the spring with 31 colonies, and packed away 46 in winter quarters at the end of the season. A super of chaff goes under the cover of each hive, and I have small movable sheds to shelter 4 hives each, which I put over them, and pack the whole well with straw.

The bees were splendidly strong in the early summer, but, as you know, the Colorado honey crop was anything but a large one last year, and, with the best intentions, my bees gathered only 300 pounds of comb honey fit to pack, and I rendered down a lot of culls, which gave me about 50 or 60 pounds of extracted honey, which my misguided family always prefer to the finest "comb."

I find the very best way to do this is to put the comb, after cutting them from the sections, into a white enameled pan, which then goes into a solar wax-extractor. If the sun is hot enough it will melt right through, and the vat will cool in a cake at the top in the evening. A slit can be made at the edge of the vat, and the honey can then be poured from under it. It will be found so clear that it will need no straining through cheese-cloth, and the sun seems to give it an extra-fine flavor.

Now for a few of the "points" I have been noticing lately in the Journal. So much has been written about Italians *vs.* blacks, that I will give my experience. I have my figures as nearly correct as I can, but in some cases it was a little hard to judge what each colony did. I had, sometimes, to let one colony cap what two or three had helped to fill.

Getting 360 pounds from 31 (spring count) colonies, gives an average of less than 12 pounds a colony. But of this the colony ruled by the 6 golden Italian queens I bought the previous fall, produced 193 pounds, or 32 pounds per colony. The remaining 25 colonies of "mixed" bees made only about 167, or less than 7 pounds per colony. Now, 32 pounds is not much for a colony to store, but it was more than 4 times the amount the others stored. In addition, the Italians filled up their hives well with winter stores, which is more than some of their neighbors did. This leads me to a second point—feeding. I am sorry you and Dr. Miller had so much trouble with your unfinished sections, but I am glad you told us of it, for if sometimes the bee-keeping chieftains can not get their bees to work their will, we humble followers need not always get discouraged, and think, "I suppose it is my own fault somewhere," when our bees persist in doing the very opposite of what we want or expect of them.

I had just the same trouble as you had, but with me it was more serious, for I not only wanted to get the sections cleaned out, but to feed the light colonies. I also had a number of brood-frames containing 1 or 2 pounds of honey I wanted them to take out, but nothing would induce the bees to carry it down. I tried giving the supers *under* the hive-body, but neither would they carry it *up*. I then gave them extracted honey, and I gave them syrup, but neither would they store that. I fed it hot, and I fed it cold; I fed in the warm part of the day, and I fed at night, but with the hives I wanted to fill up most it was no use at all. Anything left in the open—a few drops spilled, or the stick I mixed with—would be black with bees directly; but except in the case of one or two colonies they would not take from the feeder.

I made the syrup thick, as recommended in the Bee Journal of Oct. 5, 1905, and mixed it smooth and clear in the bread-making machine, which mixed it beautifully. Finally, I had to buy a number of full extracting combs from a neighbor to get enough for them to winter on.

Observe, I said "to winter on." But there are several still too light to stand the strain of brood-rearing in the spring, and I shall have to feed them in some way about March.

We have had several warm days lately, and the bees have been flying freely about, and they are usually quite ready for bran and flour by the middle of February. I have noticed that the elms are usually out about the first of March, with the bees thick upon them, and the box-elders are only a little later.

I never quite understand what is meant by "stimulative feeding" in the spring. How would you feed under these circumstances? Would the syrup I made in the fall be right then, or should I make a thinner one? I have never had to feed syrup before at all.

I use 10-frame hives, and leave all the frames in all the summer, and, in addition, I have always tried to get a number of extra combs filled with sealed honey to enrich the poorer colonies in the spring.

I know this is not the most "advanced" method, but I do almost the entire work of the apiary by myself; and if there is a little less honey in the packing cases there is also less handling of hives and combs, and less anxiety about winter stores.

I have another favor to ask of you: In the American Bee Journal for 1903, page 491, there is a letter signed by Dr. F. L. Peiro on feeding bees with "crushed white mulberries." He speaks of a previous article on the subject, but I did not take the Journal till that year. We have a large number of mulberry trees, both purple and white, and the bees certainly get either pollen or honey from the blossoms, and perhaps both. I tried crushing the fruit and putting it near the hives, but the bees would not take it.

Would it be too much to ask you to look this up, and let me know how the fruit should be prepared? If it is really as good a bee-food as he thinks, it is a pity not to use the quantity of fruit we have every year. COLORADO.

There is at least one member of our family that will agree with your misguided ones, that extracted honey is much the best.

You are on the right track, keeping tab of what each colony is doing, and, by breeding from the colony doing the *best work*, you can have in time those poorest colonies doing just as good work as the best.

It was the sections that we had trouble with. Our bees have seldom bothered us much in taking feed from a feeder in the fall. Sometimes they have refused to take it in the spring, but that, I think, was perhaps because they were rather weak.

A very good plan is to give the strong colony that will take the feed a story of empty brood-combs and let them fill them, then draw from these to feed those that need feeding.

What is meant by stimulative feeding, is to feed in such a way as to induce the queen to lay more than she otherwise would do, by feeding a small quantity each day, or every other day. It is better to have the honey or syrup thin.

But stimulative feeding is a two-edged sword, and may do more harm than good, by inducing the bees to fly in unfavorable weather.

In our locality stimulative feeding is rarely needed, as the queens usually lay as many eggs as the bees can cover. In some localities, especially in Colorado, there may be good weather in the spring so that bees can fly, everything all right for brood-rearing, but there is nothing for the bees to gather, so the queens will not lay as when nectar is coming in. In such cases feeding is a necessity in order to keep the queens laying.

You are indeed using the most "advanced method." Is there anything that is better to feed bees than solid frames of honey? I always feel rich when we have a good supply of full combs on hand.

I have looked up the article by Dr. Peiro. The only instructions are to mash the mulberries to a pulp, and put on the alighting-boards. It is doubtful if the bees will trouble themselves with any kind of fruit-juice when they can get nectar from the flowers.

Mr. Hasty's Afterthoughts

OUR TOIL DOTH SWEETEN OTHERS

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

MR. SCHOLL AND THOSE BEE-PROBLEMS.

May be good for Mr. Scholl—but bad for we'uns—that he has so unexpectedly flown the Texas coop. The Ohio State University is not much interested to have him settle all those toothsome bee-problems, I fear. Whatever shall we do?

> "We never had a little dog
> But what he died or run away."

DIDN'T LIKE NATURE'S HIVE.

So when L. M. Gulden had secured one of Nature's hives at his pretty apiary (for contrast), the bees therein "up and died." So ashamed of their not-up-to-date condition that they got cold feet. Pages 21 and 27.

SPACE UNDER SOLID COMBS IN WINTER.

On page 29, Dr. Miller's all right to get his bees in a bunch down below solid combs of honey, when it's a matter of cellar-wintering merely; but I'm an out-door feller, and was thinking of out-door conditions. I have come of late years to think that vacant space below (or unnecessary vacant space anywhere, for that matter) counts heavily against the best success in wintering outdoors. Such space is *cellar*, and shockingly cold cellar at that; and it half forfeits the strongest advantage of outdoor wintering—direct ventilation from perfectly pure and highly ozonized air. In other words, air keeps circulating back and forth between the big, cold space and the warmer, narrow spaces next to the cluster, with the result that pure air from the outside arrives only in an adulterated condition. Or, in still other words—seeing the air next the cluster must be cooled by admixture with colder air from some place, far better the mix be with pure outdoor air than with dead and impure indoor air.

DIFFERENCE IN PERCENTAGE OF MISMATINGS.

So E. W. Diefendorf thinks the lemon-banded Italians and the orange-banded Italians differ in the percentage of queens that will mismate (outside things being equal), the latter making the worse scores. That, if sustained, will offer some aid and comfort to those who think that comparative agility in flight, and the number of wing-strokes per second (on both male and female sides) count heavily in the martial selection. I don't seem to have much to say about it—perhaps—and then again perhaps not. Page 30.

CATCHING THE PRODIGAL SWARMS.

And here's another rich idea: During a season when famine conditions prevail, a large, well-kept apiary *attracts* the hungry swarms from yards where there are but few colonies, and they totally neglected. Not much doubt about that. Well, the additional kink is that a few decoy hives posted up on roofs and trees around will take them automatically. William Stolley got six of them in one season. He did well—and wants to hear from the fellow that can beat it. Page 30.

Lumber Prices in Texas.

Pass some of those high prices up this way, please! The Texans call lumber high at $22 per M. Page 31.

Late Swarms North and South.

Yes, Oct. 31 distances Sept. 22 as record for the lateness of a swarm—or would, except that we can hardly let California, and Texas, and Florida trot in the same class with the Northern States on the Atlantic side of the Rockies.

▭ And A. J. Burns shows that an imprisoned host of robber-bees can sometimes be enlisted and queened and started off on an honest career as a colony. Possibly some of us may have suspected as much before. Page 34.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Two-Pound vs. One-Pound Sections

H. A. Smith, page 126, wants to know what I think about 2-pound sections. They had the field when sections were introduced years ago, but side by side brought 2 cents a pound less than the 1-pounds; so that notwithstanding the less labor in their production they were driven out of the market. It is somewhat doubtful whether they would do any better now. C. C. M.

Cutting Small Soft-Maple Limbs in Spring for Sap for Bees

I have 30 colonies of bees which I desire to increase. I also have a grove on my farm of about 10,000 soft-maple trees. Now, as soon as the bees begin to fly well in the spring, and in order to build up fast, if I would cut off a small limb of a lot of the trees so that they could work on the sap, which flows profusely, would it help the bees, or would it be a damage to them? Nebraska.

Answer.—I don't know, but I think it would be a good thing. There is just a question whether it might not get the bees out on days so cold that the loss from chilled bees would overbalance any good resulting. Neither would the trial one year tell positively what might be done another year. One year there might be nothing but good weather at the time, and the next nothing but chilly, windy and wet. At any rate, I rather think I'd try the experiment, not being in a hurry about it till there seemed a fair prospect of fairly good weather.

To Use or Not to Use Queen-Excluding Zinc?

On page 105 "Pennsylvania" asks regarding excluders: "Would you use bound, unbound, or wood-and-zinc?" We were just congratulating ourselves on seeing your *honest opinion* on a matter we have been interested in, when, by answering the first part of query No. 2, you shut off all the rest, and every subscriber to the paper is made a partaker of the apparent snubbing given by half-answered questions. My present opinion favors a full sheet of queen-excluding zinc, because of the larger surface available for the use of the bees. Ontario.

Answer.—I should regret exceedingly to snub any one, even at second-hand, in this department, and I do not mean to leave a question "half-answered" in any case, even if I can do no better than to say I don't know. I think you will absolve me from the charge if you will look again. It is true that there are two questions, and I gave one answer, but that one answer answers both questions. In order, however, to satisfy you fully, I will now give a categorical answer to each of the questions.

The first question is: "Is it necessary to use queen-excluders with dovetailed hives in producing comb honey?" To that question I answer, No.

The second question is: "Would you use bound, unbound, or wood-and-zinc?" To that question I answer, No.

I now submit whether those two answers were not just as fully understood from the one answer I gave: "I wouldn't use excluders for comb honey."

I can fancy your replying: "Yes, but some may want to know what you would prefer if you used either excluder." Very true, and some might also want to know whether I would use excluders for extracted honey, and several other things might be asked. Now, if you are going to hold me responsible to answer all the questions that some one else might ask, under penalty of being charged with apparently snubbing every subscriber of the paper, don't you think you are giving me a pretty big stint? Bless your heart, my good friend, I don't know enough to answer all the questions now asked, without exposing my ignorance by trying to answer all the questions I can imagine might be asked. You don't want to be too hard on me, do you?

Well, now, seeing it's you, I'm going to answer the question I infer you want answered, even though you haven't directly asked it.

If I were going to work for extracted honey I would use queen-excluders. As to the kind, there are several things to be taken into consideration. The wood-and-zinc keeps in shape better than anything else. The all-zinc has a larger number of perforations, but if it should sag down so as to rest on the top-bars, that would shut off a large number of them from use. In any case, either one has more perforations than needed for free passage of the bees. The wood-and-zinc excluders are rather frail, easily broken, making them in the long run more expensive than the others. So you see there are advantages and disadvantages on both sides. If I were to work for extracted honey I would use wood-and-zinc excluders, because I have 150 of them on hand—barring what have been broken; and if I had them all to buy I don't know which I would use, with some suspicion, however, that it would be the all-zinc.

Now, if I haven't been mind-reader enough to answer all that was in your mind, send on any further questions and I'll do my level best on them.

Shade Protection—Gravel to Keep Down Weeds

1. Would it be practical for me to move my apiary from an orchard to the west side of a grove with no protection but on the east, as it is too close to the road?

2. What would give the quickest protection?

3. Would gravel keep the weeds down around the hives very well? Iowa.

Answers.—1. Yes, move them in the spring before they get to flying frequently, say at a time when you think they will be confined something like a week before having a flight after removal. Clear off everything at the old place so it will have no resemblance to their old home, and as an additional precaution it will be no harm to set up a board before each entrance, not removing the board until they have had two or three flights.

2. The quickest protection is a shade-board made of any cheap stuff placed over a hive, letting it project over the south side. This for a protection from the heat of the sun on hot days. But it will not be needed until the days do get hot, perhaps along in June, and even then some good bee-keepers think it is better not to have such protection. So good a bee-keeper as E. W. Alexander is cutting away the trees that shade his bees.

If you mean protection against west winds, then the quickest thing is a high, close, board fence. For a growing protection, plant cottonwood, or poplar for quick results.

3. Yes, if deep enough. I don't know just how deep; perhaps 6 inches.

Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when writing us on other matters.

Reports and Experiences

Results of the Past Season

My bees did well the past year. Spring count showed 52 colonies, from which I got 3400 pounds of honey, and increased to 74 colonies. JAMES H. BAKER.

Palmyra, Mo.

About Half a Crop in 1905

I had about half a crop of honey last year, the season being too wet and cold. I had 20 colonies in the spring, which increased to 36. I took off 1100 pounds of surplus honey, of which 380 pounds was comb honey.

Three Rivers, Mich. W. Z. RUGGLES.

Dampening Sections for Folding—Cutting Section Foundation

I have noticed many times articles in the bee-papers in regard to wetting the back of each joint of sections before using them. I would like to say to all that have had to do that way, put the crate of sections into the cellar 12 to 24 hours before using, and your trouble will vanish like magic.

I will give my way of cutting foundation for surplus sections: Take a piece of $\frac{7}{8}$-inch surfaced lumber 6 inches wide by 2 feet long. Put on a strip of board $1\frac{1}{8}$ inches wide the full length of one edge of the first piece mentioned, and also across one end. Then take a square and measure off the length of pieces of foundation, marking off for as many pieces as the sheet of foundation will make. Then saw out each mark to a depth of $\frac{1}{8}$ inch clear across the board and through the $1\frac{1}{8}$-inch strip, which strip should be put on with the projection all on one side. This will serve as a back to put the foundation against. Now get an old steel case-knife and cut it off to about 3 inches long. Then taper the cutting edge of the blade, making a long taper, and grind it down thin, but not sharp, and smooth the whole surface of the blade with a fine whetstone. With this knife and the above-described board a good outfit is secured whereby foundation can be cut perfectly square and without damaging it in the least, if one has a cup of cold water to dip the knife in occasionally. Lay the foundation on the board snug against the projection. On both end and side hold the foundation with the thumb and forefinger straddle of each saw-kerf as the knife is drawn through the saw-kerf. C. H. HARLAN.

Mora, Minn., Jan. 15.

Dealing With Queen-Breeders

I sometimes notice articles in the American Bee Journal that I feel should be taken up and given further discussion in order to prevent non-progressive opinions being formed in the minds of the amateurs and others who are its readers. Especially would I like to call attention to the item on page 97, entitled, "Dealing with Some Queen-Breeders." While I have had the same experience as Mr. Smith, still I believe the queen-breeders, as a class, are just as honest as the average business man of to-day, and while one is apt to get the worst of it at times when trying to get orders filled early, or in small lots, yet our experience has been very agreeable and satisfactory. We have purchased from 25 to 150 queens every season for the past 10 of 12 years, and I can assure you that it paid well; in fact, as well as any investment we ever made in the bee-line. I believe it is safe to say that we got back in increased surplus three dollars for every one expended in this way.

Young queens stimulate an apiary and bring results. The apiarist who devotes all his time to the production of honey can seldom afford the time to rear the queens he should have, to obtain the best results; especially in this Northern climate where it is practically impossible to do anything in that line early in the season. He can well afford to pay good prices to Southern breeders. We have had our best results with a breeder in Florida, also very good satisfaction from some in Texas.

In conclusion, I feel that the queen-breeder is a necessary accessory to the honey-producer, and should be looked upon with approval by the bee-keeping public.

I wish to speak my appreciation of the American Bee Journal—a fair and independent paper, and of great service to the professional bee-keeper. C. L. BROWN.

Hennepin Co., Minn.

Improving American-Italian Bees

It's an old story, this improvement of bees for honey-gathering. Now let us get the evidence and see what we have.

J. A. Green, in Gleanings, says: "It does not seem that anything very wonderful has been done." Now, in some number of Gleanings, E. F. Atwater seems to have about the same opinion about our improved bees.

In reference to Roots' $200 queen, if I mistake not, she came direct from Sunny Italy. I might ask what has been done here in America in the way of improving this strain of bees as to honey-gathering? I will give a brief review of my bee-keeping for the last 20 years:

In the spring of 1886 I began bee-keeping with Italian bees, and every season since I have bought Italian queens from Illinois east to the Atlantic, and from New York to Texas. I mean to say I have bought queens from the territory above stated, and by careful count have taken off 26,300 pounds of honey (not a large amount, by the way), $\frac{1}{3}$ of which was comb honey and $\frac{2}{3}$ extracted. Now, in my 20 years of bee-keeping I had one queen that I bought, imported from Italy, that I reared queens from in June, 1904. They proved themselves the most valuable during the season of 1905 of any bees I ever owned. It was an easy matter for those queens to keep three 12-frame Langstroth hives full of bees, brood and honey, and these bees gathered honey according to the amount of bees they had.

The season of 1905 here in northern Indiana was poor. We had a great amount of rain, and I got but 1600 pounds of honey from 54 colonies, which increased to 72.

St. Joseph Co., Ind. C. A. BUNCH.

Do Bees Move Eggs?

In the report of the Ontario Convention, page 84, is found this question and answer:

"Will bees move eggs?"

"Mr. Alpaugh—'Yes. I had queen-cells built, eggs carried and put into them, and queens reared.' Mr. Holtermann and Mr. Pettit both endorsed this."

An unqualified statement and an unqualified endorsement by three able men! Heretofore writers have expressed their opinions on this subject with hesitation, no one high in leadership committing himself on either side. No case has ever been reported in detail that would satisfy the demands of entomology. Editor Root, who was, one might almost say, born in a bee-hive, and who thinks that bees do move eggs, offers no better proof than that he "has seen a worker carrying something that looked like an egg." More likely a flake of newly-secreted wax. Arguments drawn from the innate jealousy of the queen [Langstroth], or from the ant by analogy [Novice], are plausible but not substantial.

In view of the uncertainty in the teachings on this subject, would it be too much to ask Mr. Alpaugh, or one of his endorsers, to give us the cold facts? The object of this request is not to impeach their truthfulness, but to challenge, in all kindness, the accuracy of their observations. E. W. DIEFENDORF.

New Lebanon, Mo.

Results of the Season of 1905

My bees are the blacks. By May 20, 1905, I took off one 8-frame extracting super of honey and one 24-pound super of comb honey per colony. By June 20, I took off one 8-frame extracting super and another 24-pound super of comb honey. During the rest of the season they drew out one 8-frame super of comb foundation into full combs, and finished another 24-pound super of comb honey. These bees are kept in a house-apiary. The others I increased to 8 colonies and sold $5 worth of honey per colony. I sell my honey at $12\frac{1}{2}$ cents per pound. Some bee-keepers claim that 1905 was not a good year for honey here. The bees commenced swarming in this locality about May 13, but I don't think they will swarm this year until the last of May.

My way of stopping robber-bees is to close up the hive of the robbers at night, and in the morning close up the hive-entrance of the one that was being robbed to one bee-space. Then I open the hive-entrance of the robbers and kill all the bees that come out loaded; or else I pick up the colony that is doing the robbing and take it off a mile or two. This is a sure cure.

I have four colonies of bees on the summer stands that have wintered well so far. I have sold some bees, but every time after having sold a colony I caught a swarm coming out of the woods.

My bees work on red clover, pennyroyal, or almost anything. I left a feeder in one hive full of thick sugar syrup. The bees did not seem to want to go in search of anything this winter. They did not unseal any of their honey, so far as I could see. I caught this swarm in October. L. A. MILLER.

Rosebud, Mo., Jan. 30.

Bees Didn't Do Well—Cellar-Wintering

The past year bees in this locality did not do well. My 9 colonies taken out of cellar in the spring (1 died) increased to 13 (by natural swarming), and gave about 140 sections of honey. I had a swarm issue May 30 which I hived on old combs and saw the queen enter the hive, but 6 weeks later, noticing that there was no work at that colony, I examined and found that there was only a handful of bees left, and no sign of brood, but moths in plenty, and combs nearly spoiled. June 15 I put a super on this colony, when it seemed flourishing finely. Does this happen often?

First swarms usually appear after the middle of June here.

My bees are in the house-cellar facing the center, with no precautions as to light, there being two windows at their back and one at their side but 15 feet away. The hives are placed with their backs to the wall on the south side, with a board partition between the wall and the hives, and stacked 2 or 3 high, as convenient. I leave the bottom-boards on and supers off, entrances $6x\frac{1}{2}$, and 1 inch auger-holes in the middle of the front just above the portico, which makes a good alighting-board in summer. They wintered well under the same treatment last winter, while two neighbors about $1\frac{1}{2}$ miles from here lost very heavily; one, from 50 colonies put in winter-cases, had 18; the other, of 30 or 33 on the summer stands with corn-stalks as a covering, had 6 very weak ones left. It seems useless to try to winter bees without good protection in this climate. Since Dec. 1 there have been 6 or 7 days that bees could fly with safety—only one day at a time—so they might stand it this year on the summer stands.

The American Bee Journal is the only paper of four taken by the family that I read entirely, every number being a treasure, and very helpful to bee-keepers in general. I think that I can lay all the success that I have yet enjoyed to the instructions found in the American Bee Journal. HOWARD H. HOUSE.

Richfield Springs, N. Y., Jan. 15.

Bee-Keeping in North Dakota

Last spring I put out of the cellar 7 colonies, and secured over 700 pounds of surplus honey, and increased to 15 and 1 nucleus during the season, all fairly supplied with honey for the winter. I left them on the summer stand until Dec. 1, and had to dig them out of a snowbank from 4 to 6 feet deep. They were all as lively and happy as if it were summertime. This winter is mild for North Dakota, and the bees are keeping up that low hum in the cellar at about 45 degrees above zero.

I have the hives set in wooden trays 2 inches deep, with a wire-screen on one end and a little tin door on the corner, open enough to

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What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

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let the bees out to run around, and closed enough to keep a mouse out. They did pretty well this way last winter.

I hang to that way of making increase that I saw in the American Bee Journal some years ago, viz.: After putting out, I see to keeping them warm, and that they have feed enough, and when they get well filled with brood (I do not shake) I divide them about equally. If I can not see the queen, I move the hive one foot or so to one side and put the other half a foot or so to the other side. I put a board between the hives, standing it out in front, and it seems the bees divide about right. I soon find the half that has no queen, and either introduce a queen or let them rear one themselves, helping them by taking brood from the other. As soon as these two hives are filled with brood, on goes the excluder and a hive on top filled with empty comb or foundation, and in comes the honey. I then look to extracting, having an eye to queen-cells below, and little fear of swarming.

I get some fine queens from these queenless halves by taking a frame with cells and putting it in a nucleus. These often build up to a good colony for wintering or for replacing a queenless colony. I often have 3 nuclei in one divided hive-body.

White and yellow sweet clover are all right as honey-plants. We are well supplied with forage—white clover, basswood, willow, plum, elm, wild-cherry, hawthorn, mustard, corn, raspberries, etc. All that is needed here is to manipulate all right. The local demand for honey is sufficient yet.

I am getting more and more in love with the American Bee Journal. But for it my surplus would be little or nothing. By keeping a close watch on its columns, and adding my own experience, I succeeded even in the past poor year to get over 100 pounds of honey from each colony, spring count.

Hendrum, Minn. R. MCCRADIE.

Favors a Shorter and Deeper Frame

There comes through the columns of the bee-papers every spring, a kind of wail, especially from the beginners. Their bees died, although there was honey in the hive—not very much, perhaps, but if the bees had been clustered on the little bit there was, they would no doubt have survived until it was possible to feed them in the spring. Of course, the bees should have been fed in the fall, so there could have been no possible chance of starvation. The beginner knows this, but still he finds it hard to excuse those bees for dying when the honey was there, although out of reach.

Would that honey have been out of reach if it had been directly over the cluster, or nearly so? One pound of feed over the cluster is worth 100 pounds in some other part of the hive, when a cold-snap comes. I have found plenty of honey at one end of a Langstroth hive, and a cluster of dead bees at the other end, when taken out of winter quarters. Would such a state of things have existed if that superfluous length had been added to the depth of the hive, thereby placing the honey, which would have been in that part of the hive, directly over the cluster?

For the man who winters his bees in the cellar, the long Langstroth frame is all that can be desired. It is also a good hive for *some* men who winter bees out-of-doors. By *some* men, I mean those who feed their bees so the hives are chock-full in the fall, so they always have feed in easy reach. But for the man who can not attend to his bees as can the specialist, a shorter and deeper hive—one which will bring the bulk of the honey over the cluster—will save him many colonies of bees. Ever since Father Langstroth invented his hive, with its long, narrow frame, it seems to have been preserved as a standard, especially in regard to its length. No doubt many bee-keepers have found fault with its wintering qualities, but when the penalty for changing from regular to odd-sized hives was realized, they were forced to stick to the standard. I find that a hive which is about 3½ inches shorter, 2 inches deeper, and about 14⅓ inches wide, winters a colony much better than a standard Langstroth, and with less honey. What honey the bees have is always within reach.

I don't wish it to be understood that I condemn the Langstroth hive for all conditions and circumstances. As I said before, it is a good hive for the specialist bee-keeper, but if this other hive is a good hive for the novice, it surely ought to be a better hive for the specialist, according to the ability of the man using it. H. A. SMITH.

Palermo, Ont.

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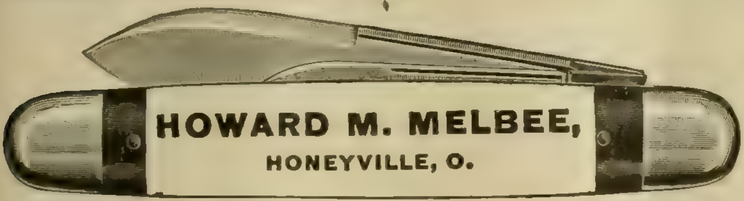

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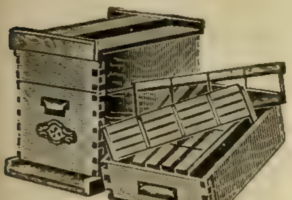

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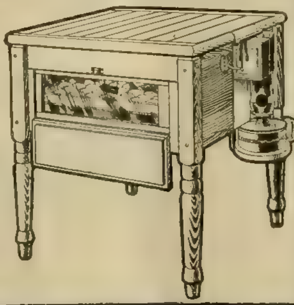

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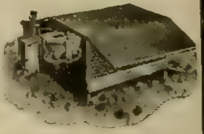

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CHICAGO, Feb. 7.—The demand is about normal with sufficient stocks to meet all requirements. The best grades of white comb honey bring 14@15c, with off grades at 1@3c less, depending upon color, condition and shape. Extracted, aside from white clover and basswood, (choice grades of which are practically unobtainable), is in ample supply at 6½@7½c; amber, 6½@7c, with off grades still lower. Beeswax, 30c. R. A. BURNETT & Co.

TOLEDO, Feb. 5.—The market on comb honey at this writing is rather quiet, and prices have weakened somewhat. We are getting for fancy white comb, 14@15c; No. 1, 13@14c. Extracted white clover, in barrels, brings 6½@7½c; in cans, 7½@8½c, although the supply seems to be exhausted throughout the country. Beeswax, 28@30c. GRIGGS BROS.

INDIANAPOLIS, Feb. 2.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8½c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
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NEW YORK, Feb. 19.—The demand is fairly good for better grades of white, and while the near by crop is fairly well cleaned up, new arrivals are now coming in from Cuba, besides several cars have been shipped on from California. We quote fancy white at 15c; No. 1, 13@14c; No. 2, 12c; amber, 11c; buckwheat, 10@11c. Extracted in fairly good demand, especially California, of which there is abundant supply. We quote white sage, 6½@7½c; light amber at 6@7c, according to quantity; buckwheat at 6c per pound; Southern at 50@60c per gallon, according to quality. Beeswax steady at 29@31c. HILDRETH & SEGELKEN.

CINCINNATI, Jan. 20.—The honey market is quiet. We do not offer white clover extracted honey on account of its scarcity; instead offer a fancy water-white honey, in 60-lb. cans, 2 in a crate, at 7¼@8½c; fancy light amber, 7½c; other grades of amber in barrels at 5¼@6¾c, according to the quality. Fancy comb honey, 16½c.

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KANSAS CITY, Jan. 22.—The market here on honey is very dull now, as it always is this time of year; fancy white is selling at $3.00 per case; 24 section and amber is selling at $2.75. Extracted, 5½@6c. Beeswax, 25c per pound.
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Contents of this Number

Illustrations—

Apiaries of L. L Andrews 180
Apiary of Rev. Robert B. McCain.........1st Page
"Logwood Apiary" of John Wood........1st Page
McCain (Rev.) and Crop of One Colony......... 181
Trinder, Edwin 183
McCain, Rev. Robert B....... ....1st Page

Editorial Notes and Comments—

Beedom North and Beedom South.............. 181
Brood-Rearing in Winter.......................... 179
First Study for Young Bee-Keepers.... 179
Programs for Bee-Keepers' Conventions..... . 179

Miscellaneous News Items—

Andrews (L. L.)—Personal......................... 180
If Only It Were True 180
Profit in Bees...................... 180

Sketches of Beedomites—

McCain, Rev. Robert B. 181
Yule Greeting.......................... 182

Our Sister Bee-Keepers—

Bee-Keeping for Women.......................... 182
Poultry vs. Bees............... 182

Mr. Hasty's Afterthoughts—

Empty Box-Hives 183
Government and Queen-Rearing.. 182
Number Locations Instead of Hives............ 183
Printer Got "Mixed" on "Making"... 183
Roofing for Hives.... 138
Top and Bottom Frame-Spacers............. .. 182

Canadian Beedom—

Comb Foundation.................. 183
Early Preparation for the Season............... 183
Trinder, Edwin............ 183
Wintering Bees...................... 184

Contributed Special Articles—

Bee-Stings as a Remedy 185
Building Comb on Tree-Limbs.............. 184
Carload of Honey........ 184
Clipping and Filing Apiarian Oddities 187
Conditions Affecting the Honey-Flow 184
Dadant Methods of Honey-Production (No. 4) 187
Effect of Dark and Light Colors on Bees....... 184
Honey-Yielding Plants of Texas.................. 189
Queen-Breeders and Their Difficulties.......... 186
Shaken Swarms and Non-Swarming Methods.. 185
What I Do With a Crop of Honey............... 187
Why Bees Don't Store Honey.................... 185

Convention Proceedings—

Baby Nuclei in Queen-Rearing.................. 196
Chicago-Northwestern Report..... 192
Comb Honey or Extracted—Which ?... 192
Foul-Brood Legislation—Importance of........ 194
Late Feeding of Bees........ 194

Southern Beedom—

Early Spring Work in the Apiary 197
Providing Stores for Weak Colonies.... 197
Spreading Brood and Other "Fussing" 198

Dr. Miller's Question-Box—

Advertising Honey 198
Alsike Clover 198
Black or White for Painting Hives 199
Facing Hives Toward Pasture. 198
Foul Brood......... 198
Shade for Bees...................... 198
Shipping Bees a Long Distance.................. 198
Wintering 198

Reports and Experiences—

Antique and Unique Methods of Catching Swarms........................ 200
Discouraging Season.............................. 200
Fears Bees Will Starve........................... 200
Fine Winter for Bees 200
Hive-Covers and Bottom-Boards 200
Poorest Year for Honey 200
Wax from Bur-Comb for Testing................ 200
Winter Well in the Cellar........................ 200

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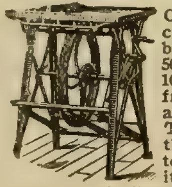

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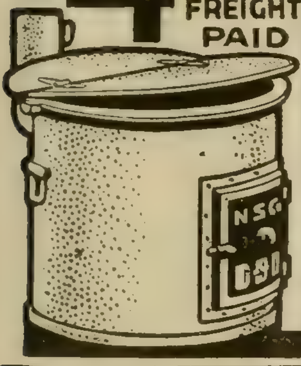

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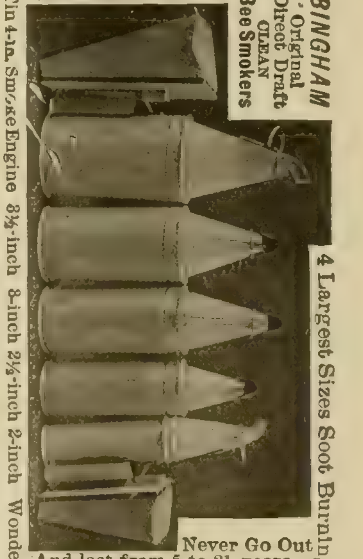

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GEORGE W. YORK, Editor CHICAGO, ILL., MARCH 1, 1906 **Vol. XLVI—No. 9**

Editorial Notes and Comments

First Study for Young Bee-Keepers

Among the principal sources from which the beginner draws the information and inspiration that helps to make him a successful practitioner may be named, practice in the apiary, apiarian text-books, bee-papers, and conventions. It might not be the easiest thing to say in what order these should be placed, but it would not be far out of the way to advise somewhat as follows:

Get at once, no matter what the time of year, a text-book, or book of instruction about bees; when you have carefully read it through (but don't be satisfied with once reading) get a bee-paper; begin work at bees as soon as spring comes; and attend bee-conventions whenever the opportunity offers. Then, as time passes, you will feel the need of more bee-books and bee-papers.

Programs for Bee-Keepers' Conventions

The following frank remarks in the Bee-Keepers' Review with regard to the National Convention at Chicago will bear attentive perusal, and perhaps a little discussion:

> From my point of view, the greatest criticism that can be brought against it is, that the program was a little too full, thus cutting short the question-box department. After I had it all arranged with one paper for each evening session, and two for each day session, other matter came up for consideration, and it was hard to say nay. I don't believe in doing away with papers entirely, but I do think that one paper for an evening session, and two for the forenoon and the same for the afternoon, are sufficient; then let the rest of the time be devoted to the question-box.
>
> There were several very important questions that had been sent to me by mail, and to the discussion of which the convention might have profitably devoted quite a little time, but the time spent upon the regular program was so great that the question-box received scant attention. It was not reached until the last evening, and when it was seen how many questions there were to be answered, it was voted that only *two* answers should be given to each question, which proved to be only a farce—a few questions can be properly and satisfactorily discussed by two persons speaking only once each in an audience of 150 to 200 persons. I feel the more free to criticise this point, as I am the man who made up the program. Well, I'll know better next time.

It would be very interesting to know just what change of procedure Mr. Hutchinson has in mind when he says, "I'll know better next time." In other words, if he had it to do over again, what would he do differently? Certainly, he would hardly hold to the theory that it was the right thing to arrange for "one paper for each evening session and two for each day session," for that was exactly the theory that did not work out satisfactorily in the case under consideration. Would he modify that so as to have only one paper at each day session? Would he have one or more sessions without any paper, devoting the whole of such one or more sessions to the question-box?

Mr. Hutchinson says, "I don't believe in doing away with papers entirely." Perhaps not; and yet there might be worse things. It is probably not a very wild guess to guess that seven-eighths of those in attendance at the National Convention in Chicago would have vastly preferred to have had all the papers thrown out entirely rather than to have had the question-box thrown out entirely. Witness the replies on page 822 of the American Bee Journal for 1905, to the question, "What proportion of the time of a bee-convention do you think should be taken up with the question-box for the greatest benefit to the average bee-keeper attending?" Answers vary all the way from one-fourth to the whole time. C. P. Dadant says: "I enjoy that part best, and learn more than from anything else." J. A. Green says: "At the best conventions I ever attended no papers were read." Others count the question-box the most interesting part of the convention.

One trouble in this whole business is that in most conventions the question-box comes in at the tail-end of the program, and then when the program is too much crowded the question-box has to suffer. If it is the best thing on the track, why not give it the right of way?

Brood-Rearing in Winter

R. C. Aikin says in Irrigation, the official organ of the Colorado Association:

> "I recall that a few years ago there was quite a discussion (I think it was in Gleanings, and principally by R. L. Taylor and G. M. Doolittle) as to the time of year bees began to breed If I remember aright, some said in January, and others as stoutly affirmed that it was as late as March, and the disputants seemed a bit warm. It was amusing to read the discussion, and none of them seemed to know for sure."

Your memory is at fault, Mr. Aikin. The controversy was between R. L. Taylor and Dr. Miller, and both "seemed to know for sure." But Dr. Miller said January and February breeding was not likely to occur in the cellar, only outdoors.

Mr. Aikin discusses his own observations in a very interesting manner. His deductions may or may not be entirely correct. He says:

"When I was learning about bees in that cold, blizzardy State of Iowa, I recall looking into some hives in January and found brood in a small circle about the size of a silver dollar in the center of the cluster. I do not know how often I did see brood in January and February in that country, but it must have been several times. In this country you can find lots of brood in January most winters. If it should be intensely cold the latter part of December and on into January, there will not be many colonies breeding, but if it is pleasant any time during the month for about two or three weeks, or if the bees are in a warm, sunny, sheltered place, almost every strong colony will breed more or less. I have known them to breed a while and then stop, again starting in the last of February or the first of March.

"Weak colonies that have all they can do to keep up heat for the maintaining of the cluster, do not breed so early. Then, too, it makes a difference whether they are in a warm or cold hive. I have both chaff and single-walled hives, and the single-walled hive gets brood earlier. I think the reason is the chaff-packing makes a sort of refrigerator, and while in it the temperature is more steady, it is at the same time a lower one, and the bees do not fly so frequently nor so long, hence remain more dormant—perhaps I should say semi-dormant, for I do not believe bees ever hibernate—and so are slower to start brood. In the single-walled hive, if exposed to the sun, the bees become active just about every clear day, even though they do not get outside the hive; this hastens brood-rearing. They must breed to keep up the colony.

"Many contend that January and February breeding is too early; that if they could keep the bees till late in March or the first of April before any brood is reared, it would be better and save much stores. I have never agreed to this. I prefer to have a warm January and February, and have bees maturing in February and March. I do not know how it is in all parts of the State, but here we have little breeding in the fall after September, yet the bees fly often and hunt around all through the fall and by mid-winter are aged. I find it is often very hard to get a colony through spring at all if some young bees are not ready to take the place of the old ones by March 1, or nearly so. I count a colony practically safe to pull through the spring if there have been several square inches of brood hatched by March 1, with a few thousand more to hatch during the next few days; but if they have rested until March 1 to start breeding, the old bees die off so rapidly that in a few days there are not enough of them left to maintain breeding temperature, and they waste their strength and energies trying, but to no purpose, and are extinct by the time the weather does get warm enough to aid them. If they will breed in January and February these young bees can hold out till April and May—even till June—and so keep the colony alive until the weather is warm enough to enable a few bees to mature brood."

Beedom North and Beedom South

It is pleasant to know that there are those who are sufficiently interested in the welfare of this Journal to be on the lookout for possible collisions, as witness the following:

Mr. Editor:—Please watch carefully that "Southern Beedom" and "Canadian Beedom" are not made too close neighbors in the columns of the "Old Reliable." That man Scholl is always putting a chip on his shoulder to be knocked off by some one further north, and there's no telling what might happen if he should succeed in getting the blood thawed out in the veins of that frozen Canuck.

Betwixt & Between.

Thanks for the caution, but have not the slightest fear. No matter how many chips are placed on the shoulders of the Southerner, if you watch closely you will always see them accompanied by a smile of the utmost good-nature; and no heart beats more warmly for all men North and South than the heart of that same man whom you are pleased to style a "frozen Canuck."

Miscellaneous News ✣ Items

If Only It Were True!—The following paragraph has been sent us by S. G. Kilgore, of London, Ohio, he clipping it from the county newspaper:

Profit in Bees.

Dr. J. L. Gandy, of Richardson Co., Nebr., gets as high as 400 pounds of honey from a single colony, and he has 3000 colonies of bees, constituting the largest apiary in the world. He owns 20,000 acres of valuable land, all of it representing the invested profits of bee-keeping. He once marketed 32,000 pounds of honey from 75 colonies, which was over 400 pounds each. He plants large quantities of catnip along the roadside and in other waste places, claiming that it provides abundant bee-pasturage for 3 months or longer.

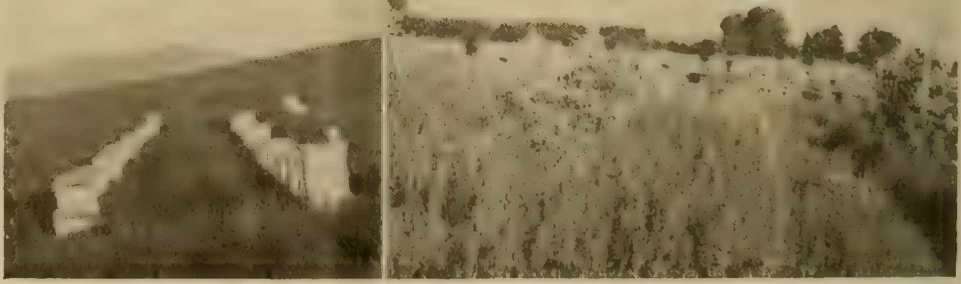
The foregoing is simply a condensation of a long article published in one of the bee-papers several years ago. Several months after its appearance a personal investigation was made by the editor of the bee-paper containing the account, and he found that there was practically no foundation for most of the statements. Of course, almost any bee-keeper of experience would hardly believe that 32,000 pounds of honey would be stored by a single apiary of 75 colonies in one season. That has never been done, and probably never will be.

As to the catnip statement, there was very little of it found in the locality mentioned.

It is very unfortunate, indeed, that such paragraphs should continue to appear in the newspapers, as they are misleading. We fear that some people would be induced to go into bee-keeping, thinking that there is a great fortune in it, only to be disappointed later.

* * *

Mr. L. L. Andrews, of Corona, Calif., is the President of the California Bee-Keepers' Association. Recently he sent us two pictures of his apiaries. One of them produced 15 tons of honey in 1905. His total crop was 25 tons from 250 colonies, spring count. The honey was gathered from orange and sage blossoms. He has had populous colonies fill a 10-frame extracted super 3 times in 12 days during the height of the orange-flow. He often moves to this location in March, and keeps the bees there until about the last of June, and then moves to the buckwheat and gets 2 or 3 extractings from that source. From many colonies he extracted 12 times, 5 years ago. His average for the season of 1905 was 200 pounds of extracted honey per colony.


Wild Buckwheat. Orange and Sage.

(APIARIES OF L. L. ANDREWS.)

Sketches of Beedomites

REV. ROBERT B. McCAIN

The subject of this sketch was born in Washington Co., Ind., Nov. 16, 1869. His boyhood and youth were spent in Virginia and North Carolina. He is of Scotch-Irish extraction, having sprung from the descendants of that race who inhabit the mountain regions of the old Colonial South. At the age of 14 he returned with his parents to southern Indiana, where, in the course of a few years, he began the serious preparation for life work in obtaining a common school, academic and collegiate education. When the call to the gospel ministry was answered, in giving himself to that profession as a life work, Hanover College, in Jefferson Co., Ind., was chosen as the school in which collegiate preparation was to be obtained.

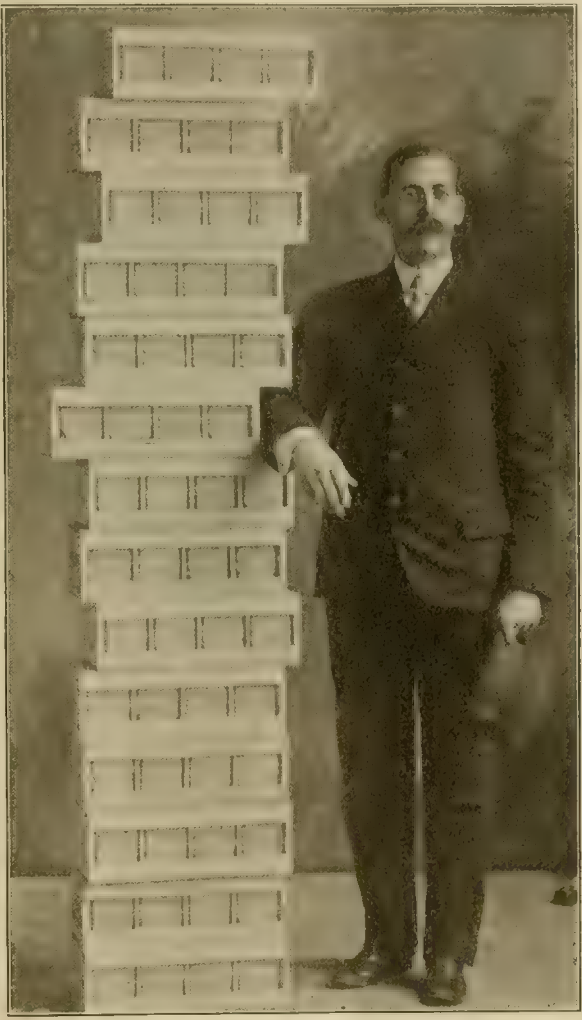
After a four years' course Mr. McCain graduated from Hanover College in 1894, receiving the degree of Bachelor of Arts. The College has since conferred on him the degree of Master of Arts. A special professional course of three years was obtained at McCormick Theological Seminary, from which he graduated in 1897. Mr. McCain was ordained to the gospel ministry in the Presbyterian Church, June 3, 1897, and has continued actively in the ministry since that time, principally in Illinois. His present pastorate is the Aux Sable Grove Presbyterian Church, in Kendall Co., Ills. This is a flourishing country church in the midst of one of the most attractive farming regions of the State.

Of country life and rural pursuits, Mr. McCain says:

> I have deliberately chosen the country as the field of my ministry in the name of Christ, because I believe that it is among the people who live away from the abnormal and distracting conditions of city life that we find it possibie to develop the highest and best in human nature. The youth of to-day who obtains preparation for his life work in the better classes of our country districts has, in my opinion, an immeasurable advantage over his less fortunate brother who must grow up in the city. The minister or teacher who will equip the mind and mold the characters of the youth of the country districts will, in so doing, aid greatly in bringing into action intellectual and moral forces which will tend to remedy the social and civic ills of our time.
>
> My interest extends to the pursuits of country life as well as to the people. I am intensely interested in gardening and fruit-growing, as well as in the study of soils and their proper use and enrichment. But my hobby in rural pursuits is bee-culture. I do not now remember just how my interest in bees was awakened, but it began to manifest itself about four years ago. Having become thoroughly infected with the bee-fever, I sought to allay its cravings for knowledge with such offerings as "Langstroth on the Honey-Bee" (original work), "A B C of Bee-Culture," and "Forty Years Among the Bees." I became, and still continue to be, a constant reader of the American Bee Journal and Gleanings in Bee-Culture, and all other available literature on the subject of the honey-bee. To facilitate the understanding of what I read, I erected an observatory hive in my study window. This hive is full 10-frame size with a glass division-board. In it I saw with my own eyes the hidden mysteries.
>
> But this proved to be bad medicine for bee-fever. I tried a year of treatment after the method of Frank Cheshire, in his "Scientific Bee-Keeping," using a compound microscope of high power to verify his statements, and still I am not well of the fever.
>
> In the meantime an apiary was growing in the back-yard, and the little workers of the colonies were paying all expenses for the equipment of their own homes as well as furnishing a delightful sweet for my table.
>
> My attention has been given more especially for the last two years to breeding high-grade queens. This, I believe, to be the crucial point in bee-culture. It is the work towards which I have been preparing myself with the most thorough scientific training and investigation.
>
> I am rather proud of the fact that I have never lost a colony of bees from any cause since I have been a bee-keeper. I fear very much, however, that the record in this line will be broken this year. Recently, in the month of January, I moved my entire apiary to my present home. The bees came part of the way by railroad, but the last of the trip (8 miles) was made in wagons. It was during the thaw, and the gravel roads cut through to the large stones, making the travel very rough. My bees were badly shaken, but the warm weather was an advantage, and I am hoping that the damage will not be great.

When sending the photographs from which the engravings were made, Mr. McCain wrote:

> The picture of the apiary is my experimental apiary in a corner of a city lot where I had 30 colonies of bees in a space 15x40 feet. The apiary faces an alley which is used a great deal by both wagons and pedestrians, and yet I have never had a complaint. A few people who persisted in standing near the fence when I was manipulating the bees were stung. My best yield was in 1902, when, from 2 colonies, I took 500 pounds of comb honey and 40 pounds of extracted. In addition to this yield I increased my apiary to 8 colonies, using the nucleus plan. I have never allowed anything but high-grade queens to remain in the apiary. The bees that have given best results in honey-gathering are Italians bred for work in comb honey rather than for color, though they are beautifully marked with yellow bands. Pure-blood Caucasian queens have given good results in this same apiary, though they do not equal the Italians in amount stored. The cappings of the honey stored by Caucasian bees was regular and as white as fancy honey need be.
>
> The other photograph is intended to show the best yield of comb honey that I have had from one colony in a single season. There are 14 of the shipping-cases with 20 plain 4x5 sections in each. All of the sections (280 in all) are finished "fancy." I took a few unfinished sections from this colony, but they are not counted. I also drew on this colony to some extent in making my increase. The large yield is accounted for, I think, by the fact that there was an almost continuous honey-flow from May 15 to the middle of October, and that the bees were in prime condition to attack the work when it came. I do not hesitate to say that the strain of bees had a great deal to do with the yield. I have used that queen as a breeder, and her progeny have given uniformly good results. I have not yet been able to buy a queen whose bees equal the work of this one, and I have bought a good many since I have been keeping bees.


Mr. McCain and Crop of One Colony
(Nearly 7 feet high.)

Those of our readers who have attended the conventions of the Chicago-Northwestern Bee-Keepers' Association of late years know Mr. McCain. He is a very pleasant gentleman to meet, and whenever present has contributed to the interest of the convention. We are glad to be able to present him through such good pictures to our readers.

At the last Christmas time he distributed the following to his parishioners, which, we think, is a beautiful expression:

Yule Greeting

> To be glad for to-day—not cast down because of yesterday, nor yet proud; not waiting for greater opportunities to-morrow, but given wholly to the work and the joy of to-day; To look with friendly eye upon God's out-of-doors; To read the best books, think the best thoughts, love that which is true and beautiful; To believe in men, to seek by kindness to bring them always good cheer; To spend time alone with God, that the peace of Christ may guard and the passion of the world Savior inspire; To pray for heaven in the heart, and to live for a home in heaven—
>
> Thus may God increase your Christmas joy and fulfill the hope of the New Year. With gratitude for what He has enabled you to do in the past, and with a prayer for the upbuilding of His church, which we love and serve, I am sincerely your friend—
>
> ROBERT B. McCAIN.

Our Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

Bee-Keeping for Women—Poultry vs. Bees

For some reason, the ambitious woman, especially on the farm, who desires to make a little extra money, almost invariably turns to poultry. This is possible because she knows something of the rudiments of poultry-raising, and partly because there is usually some stock on the farm with which to begin operations. I do not mean to infer that there is anything which will take the place of poultry, or which should, for that matter, but I do say that where it is practicable for her to do so the average woman could make more money from bee-culture, and make it more easily than from poultry, especially where poultry products must be sold in the general market. Moreover, she could do it with no greater outlay, and with more physical, mental and spiritual benefit to herself.

The first barrier, which a woman who is contemplating going into some small enterprise of her own, sees in connection with bee-keeping, is her usual lack of knowledge concerning the management of bees. The next is, possibly, her instinctive fear of the "punishment" which she knows she must frequently receive. In regard to the first, I would say that a couple of dollars invested in bee-books, and another in a good journal, will soon scatter the shadows of ignorance from her mind, and enable her, even the first season, to manage her bees with a degree of intelligence that will insure her comparative success. Regarding the latter, I would say that the fear is usually much worse than the actual experience. Besides, it is possible so to dress that one need be stung very rarely. A bit of comforting knowledge is, that the oftener one is stung the less serious the consequences. Indeed, after the first season, bee-stings rarely cause any swelling or soreness of the parts stung.

Now let us consider the work of caring for bees compared with that of caring for poultry. The active season in the apiary begins about the last of May, although an occasional day's work will be required previous to this time. From the first of May to the middle of July bee-work will probably push considerably, but nevertheless a healthy woman ought not to find it difficult to do this in addition to her ordinary housework.

After the middle of July until extracting time there will be but little work in the apiary, although some little will be required now and then. From one to two weeks' work in September ought to take care of the honey, and put the bees into good shape again. One or two days later should be spent putting them into condition for winter, after which nothing more will be required until cellaring time. Then comes a long resting time, during which what honey remains on hand may be marketed, and preparations made for another season's work. I am considering here an apiary of from 20 to 50 colonies. More than this it would not be advisable for a woman to undertake without help either indoors or out.

To obtain any considerable income from poultry, from 100 to 200 hens must be kept, which will require considerable care every day during the entire year. Beginning with April, when the chicks begin to hatch, the work is greatly increased, very exacting, and to some extent dirty and disagreeable as well. In rainy weather, as well as in fair, chicks must be fed and cared for, and during the worst winter weather, when bee-keepers may sit by the fire and rest, poultry-keepers must face the storms and wade through drifts to feed and care for their birds. This is one reason why I would advocate bee-keeping for frail women, in preference to anything else in which she might engage.

Now let us consider profits. Each colony of bees, in good seasons, ought to return from $4 to $6 in honey, besides the increase. This would make an apiary of 50 colonies bring in from $200 to $300 annually. From $1 to $2 per head is all that the average flock will return, even under good management, which would be an income of from $100 to $200 for a flock of 100 hens. A pretty neat little sum, I will admit, but considering the work and feed required to obtain it, not equal to what the bee-keeper may secure.

Now a word about costs of production. Perhaps $40 to $50 would be sufficient to buy extra hives and all necessary supplies for 50 colonies. It will cost about the same to feed a good-sized flock one year. From this it may be seen that from an equal to a much greater income may be realized from an equal outlay, with less and more agreeable work in favor of the bees.

Another thing in favor of bee-keeping in preference to poultry raising, where location and other things are favorable is that an apiary of 50 colonies may be doubled to advantage, while up to 200 head of poultry are all that can be kept advantageously on any one farm.

But it is not impracticable, with good management, to keep both poultry and bees, and make each return a very satisfactory profit. MRS. MILLIE HONAKER.

Viroqua, Wis.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

THE GOVERNMENT AND QUEEN REARING.

We expect the child that learns A to proceed to learn B; and yet there are some sequences that are not quite so inevitable, although they may look so on heedless first glance. I spoke very enthusiastically in favor of having the Department of Agriculture supervise the rearing of Caucasian queens; but I suspect we had better not back up their supervision of the whole queen-rearing business in too emphatic a way. Let us not make it necessary for any breeder to abandon his business just because his nose has gotten out of joint at some Government desk. The rearing of straight Italians is a long-established business. We already have some idea about who's who and what's what, and our conventions and journals can do something to post us still further. But as to the first proposition, on a new introduction there is more danger of getting hybrids, and very much more when the looks of the bees afford nothing positive as to purity—which same is the case with the Caucasians, I believe. Almost sorry Uncle Sam did not confine himself to the urgently needed service first proposed. In trying to do more he may not do any of it superlatively well. Page 45.

TOP AND BOTTOM FRAME SPACERS.

Yes, if you are going to use wire bottom-spacers, the way of fastening them, in which K. H. Wagner gives on page 47, is quite an improvement. Firm laterally, instead of being ready and waiting to swing over and crush down. (Bend bottom of first loop one way and next loop the other way, and so on across, stapling each one fast.) I don't use spacers at all, but sometimes think I would do so if beginning anew. For top spacing I think I should choose another kind, the ones with a metal rabbet having very small notches in which a wire or wire nail rests. This kind combines the accuracy of spacers with much of the freedom of going without them. By good chance this kind is illustrated in the same number on page 53. For migratory hives, however, Wagner's kind would be much better.

Printer Got "Mixed" on "Making."

In my department on page 52, there is a queer and rather unusual error. The first word of the third caption, "Making" played "pussy wants a corner" with the word "Mixing," which headed the fourth caption—failed to get back again, and went to press in that mixed condition. An adversary can accuse me now of making honey.

Number Locations Instead of Hives.

In the picture on page 61 we read the order of numerals 30, then 32, then 31. Nearly all apiary pictures with numbers on the hives show the same higglety-pigglety-ness. Visible evidence of more or less effort on the part of the keeper to have things in mathematical order—and proof positive of failure. Give it up, brethren. The "way" is to have the numbers belong to the locations and not to the hives. Then have your system of arrangement so simple that you can readily keep the numbers in your head and need no visible ones.

Empty Box-Hives—Roofing for Hives.

The hives in Allen Latham's apiary look far too neat to be made out of empty boxes. Although the camera does flatter sometimes, this can hardly be all flattery. His proceedings in making them, as detailed on pages 74-80, remind me of my own in making lath hives. In this matter it is decidedly "every one to his taste." Lots of us would say: "Whatever I do in this bothersome world, I'll never make hives out of empty boxes—not even if new lumber gets to $100 per thousand." On the other hand, quite a good few of use just delight in that sort of thing—feel as if making something out of nothing, and so getting closer to the Omnipotent The latter class should linger over Mr. Latham's article—they don't see the like of it very often. Also information for everybody as to cutting roofing paper. Don't try to cut with the point of a knife along a rule. Get the middle of the blade to bear, at an angle less than 90 degrees, so the severed paper on one side will be *lifted* as the knife passes along.

Shouldn't wonder if he was nobly right in commending his roof (apart from his way of making the body of it, say) to the whole fraternity. I have long used tin-covered roofs—none of them too satisfactory, and many of mine very unsatisfactory. If roofing paper (on a foundation with cracks *ad libitum*) lasts years enough in actual practice it would seem very attractive to me. One naturally asks: Does it rot under bricks or big weights, used to keep a roof from eloping with the breezes? And how about it when snow turns to ice on top, and one carelessly wrestles with the ice to get it off? Toward spring we want ice off to let the sun strike it better.

Moreover we read: "The absurd custom of tilting hives forward should not be tolerated in any upright bee-yard." Ahem! Well, if we like a man we like him to be a human sort of man. A man could hardly be human unless he had now and then a whim. Behold how this one just fits Mr. L. out with angel wings. Pages 61, 74 and 79.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Early Preparation for the Honey Season

"Expert," in the Journal of Agriculture and Horticulture, speaks strongly on the matter of early preparation for the honey season. He says:

> What is there to do now? would only be asked by the man who is accustomed to make preparations when there is little time in which to do them. There is more honey lost, I firmly believe, through lack of supers (either not procured at all or not ready when wanted) than from any other cause, in apiaries that are supposed to be managed.
>
> I have seen hives in one garden with supers 2 and 3 stories high, and all full, while near-by other bee-keepers have plenty of hives, but some of them supered. What folly! A swarm put into a box or skep will consume honey sufficient to pay more than half, if not the whole, of a modern outfit, in elaborating wax and building combs, as well as in feeding thousands of larvæ. This should not be lost sight of. Suppose a strong colony sends out a good swarm and two casts in due course; there will be in each hive at least 2000 hungry larvæ daily to satisfy with food composed of honey and pollen. By proper management the three lots of bees might have been kept working in supers over their original home, while below only one lot of larvæ would be consuming honey. It is a well-known fact that one good colony will store more surplus than two or three small ones. Hence, it is most desirable to plan work in the apiary now, with the object of limiting the number of colonies, instead of increasing by immoderate swarming.

This idea of the unnecessary amount of brood to be cared for has not been enlarged on in giving reasons why one colony held together will do better than though it swarmed once or twice.

Mr. Edwin Trinder

Mr. Edwin Trinder, of Norfolk Co., Ont., is one of the oldest and most experienced bee-keepers in that section. Both personally and officially he is well known to the profession, and has filled the important position of President in the County Association for 4 years.

His success may be attributed to his personal application, study, and attention to all branches of the work; and, being a man of great energy and thoroughness in all his undertakings, no detail is too unimportant not to receive proper care and attention at his hands.

PHOTO BY GORE

Edwin Trinder.

From small beginnings his interests have developed to 50 colonies at this time, to all of which he gives personal attention on his own fruit-farm. His mechanical appliances are of the most approved types, as would be expected in a modern apiary like his.

As a horticulturist in small fruits, he has always been successful, quality being the first incentive in all his efforts.

For several years he assisted Mr Groff, the well-known Canadian gladiolus hybridist and specialist, as grower of that beautiful flower. During that time he had entire charge of the cultivation of millions of corms, which were shipped to all parts of the civilized world.

Acting on the suggestion of Mr. Groff, he also undertook the improvement of the strawberry by hybridization. He used the pollen of our wild species on the best garden varieties available for that purpose, and secured as the result types of increased vigor and constitution in the plant, through the revitalizing influence of this cross, as well as improved texture and flavor in the berry. He feels that this is a work entitled to receive more attention from the strawberry-growers of Canada.

Comb Foundation

At the Brantford Dristrict Convention comb foundation was fully discussed. As to size of sheet it was agreed that the foundation should be attached to the top-bar and touch the side-bars of the frame so the bees will attach it there immediately. Then it should come to about ¼ inch from-the bottom-bar. Weed-process foundation, made from good wax and well wired, will not sag enough to buckle at the bottom under these conditions.

Mr. Alpaugh, of Galt, thinks more combs are sagged out of shape by shaking to get bees off, when they are full of honey and hot from the hive, than in any other way. It doesn't seem to me that theory will quite hold water, although Mr. Alpaugh is more careful and painstaking in many ways than I am. Chris Edmondson has the wires in the frame loose, then draws them down in the middle when embedding. Thus they act as a truss, and support the foundation from sagging.

As to weight of foundation, many prefer it as light as possible without danger of sagging—about 7½ to 8 sheets to the pound. R. H. Smith said with good wax the bees would thin the base of heavy foundation and use the wax in wall-building, so there is no particular economy in using foundation extra-thin. But R. F. Holtermann contended that particularly in a heavy honey-flow the secretion of wax by the bees is partly involuntary, and if not used in comb building or capping it would be plastered on the insides of the hive and wasted. Hence note, incidentally, there is no economy in extracting uncapped honey, for the wax which the bees will secrete for capping anyway would be wasted.

For fastening foundation in sections H. G. Sibbald recommended a block to fit in the section just to the middle. He lays in a square of foundation which just fits the section, and with a quill stripping brush, such as carriage painters use, he brushes melted wax around, sticking the foundation fast to all four sides. By this means there are no openings except what the bees in a slow honey-flow might make.

Wintering Bees

All the members of the Brantford Convention, who had bees in the cellar, were complaining of high temperature and noisy bees. Geo. Howard, of Lynden, put out his 64 colonies for a flight on Jan. 22, and put them back in when the weather turned cooler. He said they did not seem to be needing a flight very badly, and were very quiet when put back. Mr. Howard has promised to report in "Canadian Beedom" on the condition of these bees when they come out for good in the spring.

An idea for getting bees into the cellar quietly came from Mr. Edmundson, of Brantford. He pries hives loose from the bottom-board the night before, and slips a fence-staple in flatwise to keep them from sticking together again. A nail would roll, and let the hive slip out of place on the bottom-board, but a staple will not do that.

For outdoor wintering Mr. Alpaugh has an entrance 2½x⅜ inch, and no projection of the bottom-board. Winter and summer his bottom-boards are exactly the same length as the hive. The outside entrance of the packing-box is lower than the entrance of the hive. This serves two purposes: It "breaks joints," so no cold wind or sunshine can get directly into the hive, and it gives a place where the live bees can drop dead ones without going clear outside and getting chilled.

Mr. Alpaugh believes in having his bottom-boards perfectly level. If they slope forward, bees falling from the cluster roll to the entrance in the death struggle. The entrance soon becomes closed by dead bees; but with a level floor they lie where they fall. For upward ventilation he cracks the honey-board loose late enough so that it will not be propolized fast again before winter sets in.

See **Langstroth Book Offer** on another page of this copy of the American Bee Journal.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Contributed Special Articles

Conditions Affecting the Honey-Flow—Other Matters

BY H. S. PHILBROOK

I WISH to give a few observations I have made relative to the honey-flow, and no flow. There are three known elements required to produce a good honey-flow, and a fourth unknown. The three are, in my part of the country—

First, and most important, the bees must be in good condition, free from disease and strong in numbers.

Second, we must have abundant rains before the season has advanced too far.

Third, we must have warm, balmy sunshine, and not too much cloudy weather after the flow is on.

And now for the fourth, and unknown condition and observations I have made in connection with this condition: In 1884, I think it was, I was located 14 miles north of Lompac, in Santa Barbara County. We were enjoying a plentiful flow of sage honey, when a thunder-storm of considerable force came on, accompanied with a slight rainfall, but a grand display of lightning. It lasted only part of the day and night, but our honey had vanished, and for nearly a week the bees were furious, and on the robbing order.

At that time I thought the slight rain had washed the flowers free of honey, but this put me to observing the results of rains since then during the flow, and I find, or seem to find, that clouds and an electrical display will always stop our flow for a time, even with no rain.

I have been engaged in the culture of sugar-beets for the past 7 years, and we are paid according to the percent of sugar our beets contain, each load being tested by a sample caught at random as the load is being dumped into the cars, and the same thing appears in the sweetness of the beet. No rain, with a grand electrical display, reduces the percent of sugar nearly as much as rainfall does. Our beets are very sweet here, frequently going 28, and sometimes over 30, percent sugar; so such things are readily noticed.

A Carload of Honey.

And now a word for Mr. Hasty's carload of honey. Here on the Western Coast, a carload by water is 10 tons, and a carload by actual car, or by rail, is 15 tons.

Effect of Dark and Light Colors on Bees.

W. W. McNeal, on page 728, asks for opinions regarding bees being angered by black objects. It is, in my opinion, a fact beyond dispute that bees have a great dislike for anything of a dark color; the lighter the color the less an angry bee will notice it, and, the darker, the more infuriated will she become.

To illustrate: Take a black felt hat and stick it up in the apiary, say 6 feet high, on a stick some cool day, and at the same time place a light felt hat in a similar position. But, mind you, put them far enough apart so the angry bees from the black hat will not fool with the light one, and in the evening count the stings in the black one and compare with the light one. I mean this to be tried during a shortage of honey, when bees are naturally cross. Invariably the black one will out-reach the light one.

I have seen a great deal written about two queens in one hive, and the writer always uses the "mother and daughter" theory. Now, as pretty as this sounds, I am inclined to doubt the assertion. In my experience, and I have found many of them, it has always been two young queens—I don't mean virgin queens, but both young fertile queens—of about the same age, and invariably one will seem rather deformed about the sting, she being very thick and blunt at the end, and, if taken and introduced to a queenless colony, she will do very poor service for a time, and finally be superseded by the bees themselves; while the other will be a very nice, neat-shaped queen, and do as well as any may be expected to do.

Building Comb on Tree-Limbs.

As to a swarm building comb outside on a limb, that is a very common thing here in California. If one is located too far from timber or rocks to form convenient shelter, I have even known them to stay in a large weed where the sun beats direct on them, and build combs and rear brood, if located close to the coast where the sun does not melt the combs from excessive heat.

Why Bees Don't Store Honey.

I notice a good many questions as to why bees do not store honey. I am of the opinion that there are generally two factors to blame in most cases, though not acting simultaneously in all cases. To begin with, I think in many cases the bees have a slight trace of paralysis, though perhaps not perceptible to most men. And, in connection with this, I wish to ask, Would it not be wisdom to keep a supply of sulphur about the entrance, and throw it in at the entrance on the bottom-board? It invigorates healthy colonies, and is a sure "quietus" to paralysis. Next to this comes weather conditions, and I will explain some observations I have made in this regard in my next.

Oxnard, Calif.

Bee-Stings as a Remedy—Other Comments

BY L. H. SUDDITH

WHILE I take and *read with profit*, as well as pleasure, every article in the American Bee Journal, yet on page 806 (1905) was one on the subject of "Bee-Sting Remedy" which was of most interest to me, because of the following experience:

For over 10 years I was a great sufferer from stomach trouble and lumbago, until I was completely unable to attend to my duties, having been for 20 years in the pastorate of Baptist churches. All my life I have had a dread of bees, and that because of their stinging propensities always giving them a wide birth.

Some two years ago an old Baptist preacher moved into our city, and with him came his bees. Hearing much said about them and the modern manner in which he handled them, I was impressed to go over and talk bees, with no intention of going near the hives. When I called, he and another gentleman were working with them. I ventured out some distance from where they were working, and asked if he thought I was in any danger, and he answered, "No." I soon became so much interested that I ventured up, and escaped without a single bee-sting. In short, I became so interested that I began to help him. I soon began to love the bee to that extent that I secured from him several colonies and took them home, and in a few days I secured a severe sting. The pain was not so bad as I had expected, but it caused such an itching that it seemed almost unendurable—in fact, it was so severe that I felt that I would have to give up the bee-business. However, I persisted until the itching sensation entirely disappeared, and with it went my lumbago. This so encouraged me that I returned to my first love for bees, and, as soon as I could secure them, I increased my stock to 12 instead of 2 colonies.

It was not long before I found my stomach trouble was gone with the lumbago. For many years I had taken many purgatives prescribed by my physician, besides many patent remedies, but not one that I had ever taken had had the effect upon me that the sting of a bee had. It acted quickly and painlessly. Some may say, "Well, it is nothing more than a mental delusion," but, to me, it has been of all others the real thing.

I do not intend by this to advise those who have rheumatism, lumbago, or stomach trouble, to rush away and get stung by bees, but I am of the opinion that it would be much cheaper to have a few colonies of bees, and get a few stings, and some of the sweets, than to buy patent medicines or to rush away to many of the springs that claim to be an infallible remedy for the above diseases.

I am at present taking the American Bee Journal and another bee-paper, and feel that I have missed much of the good reading matter by not having taken them sooner. Both are excellent periodicals, but I must say I am partial to the American Bee Journal. My main reason for this claim is its weekly visits to my home. I look forward with much anxiety for its coming; I read and re-read it, and wish for Friday to come, for on that day each week I have a visit from the American Bee Journal. If I had no bees, and had the price of the Journal, I would not be without it. In fact, I don't see how any preacher can be without it on his study-table, for from it he can gather many of the best of illustrations from the most active and industrious families in animated creation, to be used in sermon-making.

The past season has been the poorest for many years in this section, say many of the old bee-keepers. It was caused by too much rain. The honey secured in the spring was from poplar and milkweed, the latter being very destructive to bees, as its pollen accumulates on their feet. The older bees are often found fastened to the flower, but the younger bees do not seem so seriously hindered by it. I have noticed strings of this pollen ¼ of an inch long on their feet. No sooner do they come in with their load and deposit it than several bees meet them at the entrance and work like jockeys after a horse has run a race, and remove it. I have noticed in the morning that the alighting-board was completely covered with it.

The fall honey was secured from the goldenrod and stickweed, which, I suppose, is of the aster family. The two flowers would have given us an abundant crop had it not been that our nights were too cool for comb-making. However, the bees gathered enough to go into winter quarters in good shape. For two years past we have had an abundance of white clover bloom, but it was a rare thing to see a bee on it. Does this often happen?

Sweet clover is making its appearance in this section—quite a sprinkling in this neighborhood for the first time. It is found along the railroad, principally. I suppose the trains have brought the seed from other sections. Some 15 years ago this portion of the State had much linden, but it has nearly all been cut out. However, many young trees are growing, and we hope by interesting the farmers in bee-culture that they will spare the young growth, and in a few more years there will be good pasturage for bees.

Most of the bees in this section that are kept are in box-hives, the same as were in use a hundred years ago. Those of us who have adopted the new method are awakening some interest along the line. Taking West Virginia as a whole, I am of the opinion it would be a good honey-producing State, especially in the interior, if we could teach the farmer that he would succeed if he would study the modern methods and apply them. Some of us would like to have a State bee-keepers' convention, and shall work to that end. I am trying to induce some of my former friends to take the American Bee Journal—those who have a few bees. However, it is no easy matter to get many of the West Virginians out of the same old rut that their fathers ran in.

I just noticed the question has been asked, "Does it pay to take more than one good bee-periodical?" My answer is, Yes, as many as one is able to pay for; for outside of bee-culture they are educators, and that is what we need. We go this way but once, and let us get all the good we can out of it. Those of us who expect it, and are urging others to the same expectancy of joy in the future life, should get all the joy and sweets of this life that do not require compromise with evil. So, then, let us take, read, and pay for all the papers we can that tell us of the sweet family.

Huntington, W. Va.

Shaken Swarms and Non-Swarming Methods

BY C. DAVENPORT.

SOME 10 or 12 years ago I introduced, as you might say, brushed or shaken swarming to modern bee-keeping. I had practiced it for years before I wrote anything in regard to it. This method of artificial swarming, by which all the brood is removed, was original with me, but after I described it many others claimed to have practiced it, and I believe it was even traced back to the dim past.

Ever since I first commenced bee-keeping—many more years ago than I like to remember—artificial swarming, or the prevention of swarming, has been one of the problems to which I believe I have given more thought and study than has any other person now living, or that ever lived, and I have finally solved it in a way that I never thought or even dreamed possible. I expect few will believe the facts I shall state in regard to this matter. I, who have spent practically all my life among bees, could not believe it if I had not practised it.

A description of the different ways I have treated or artificially swarmed colonies, and the devices, non-swarming hives, self-hivers, swarm-controllers and the like, would make a large book; but the shaken-swarm method was, up to 3 years ago the past season, the most practical method I had discovered, though I was very far from being satisfied with it, for in this locality it does not work as well in all cases as it does in others, as described by some.

Here, a colony that is not shaken until the bees have one or more sealed queen-cells, will invariably swarm out or desert the new hive in a day or two, and if they are get back all right they may try it again. Some colonies act in the same way if they are swarmed before they have cells very far under way; and again, some colonies that do not swarm out, sulk or refuse to work for a number of days, and others work in a listless, half-hearted way that does not accomplish much. These are some of the disadvantages of brushed swarms here. Still, in large yards, this method of artificial swarming is far ahead of natural swarming, for while the natural swarms from a small yard are easily handled, it is many times impossible, here, for one or even two men to handle them in a yard of 150 to 200 colonies. Large hives, ventilation, and shade will not here prevent a strong colony, if the bees are of a vigorous strain, from swarming. They are almost certain to swarm if nothing besides is done to prevent, and, after a few rainy days, few who have not had actual experience in the matter would believe the number of natural swarms that might issue the first fair, hot day from a yard of 200 or more colonies. I know, for I allowed natural swarming one season in a yard of 225 colonies, spring count, and handled the swarms alone, or what I could of them.

Of course, clipped queens give one a great advantage when natural swarming is allowed, but in a large yard it is a pretty hard matter to keep track of the exact condition of each colony, and there is always liable to be one or more young queens out to lead a swarm (or a number of them in one bunch) to the woods, for it very often happens here that a strong colony supersedes its queen in the swarming season, and swarms when the first young queen is old enough to accompany it. Then if that happens to be "swarming day" in a large yard, that one young queen may lead off half a dozen or more swarms all together, or, what is sometimes about as bad, they may stay clustered all right, and swarm after swarm come out and keep joining them, and all that can be done is to keep dipping and dumping them in front of empty hives. One of the clipped queens has to be given to each colony right away or the bees will soon come out again. Of course, the bees are all mixed up and some queens will be balled or killed. I soon found, though, that there is no need of having any queens balled or killed under these conditions, for if she is caged and laid on the bottom-board under the frames, the bees will stay in the hive just as well as if she were free, and then the next day she can be released without any danger.

After being "all through the mill," as I have, it is hard for me even yet to realize that I now have absolute control of the swarming problem. Three years ago I treated a colony in a certain way, that had sealed queen-cells and was about ready to swarm. I expected they would swarm out within the next day or two, but, instead of doing so, they went to work with a vim and vigor that astonished me. I was too familiar with the vagaries of bees, though, to let my hopes run too high over the actions of one colony. This occurred when the swarming season was about over, but among my bees and those in the surrounding country I found about 30 colonies that were preparing to swarm. Some of these had sealed queen-cells. All were treated in the same way, and none of them offered to swarm, or swarm out.

The next year I treated a number of hundred colonies in this way, treating the bees of others for nothing in order to test the plan. Hundreds more were treated the past season (1905), and now what I do not expect many to believe, and what I can hardly realize as possible myself, is the fact that in the hundreds treated the last three seasons, not a single colony offered to swarm out, or failed to work with all the vim and vigor of a natural swarm!

This method is as much ahead of brushed or shook swarming as a modern express train is ahead of an ox-team. It means simply this: An operation requiring 3 or 4 minutes to a colony—though I have frequently performed it in less than 2 minutes; then the next day, or at any time within 15 days, another operation requiring less time. Two minutes is ample time for this second operation. This not only solves the swarming problem, but secures more honey than by natural swarming, or if the colonies had not offered to swarm. This is another thing I do not expect any one to believe, but after the treatment is understood it would be easy to understand why it might be so.

There is no searching for queens by this method, no jumping of hives around; no possibility of any eggs or brood being chilled or lost; no possibility of afterswarms; and, unless it is desired to breed from a certain queen, artificial queen-rearing need not be practised, for with this method each colony can, if desired, be allowed to requeen themselves with a queen reared under the swarming impulse. In fact, there are possibilities about this method that I do not yet fully know myself, but what I do know is, that when it becomes known to the bee-keeping world it will revolutionize our pursuit. I would rather produce honey, either comb or extracted, for 10 cents a pound and practice this method, than for 20 cents a pound and have either to practice natural or "shook" swarming.

I have not decided yet whether it would be best for me to give this to the bee-keeping world or not.

Southern Minnesota.

[We wish to invite Mr. Davenport to describe his latest method of preventing swarming, which he mentions in the foregoing article, for the benefit of our readers and the bee-keeping public in general. If he does not do so, in all probability some one else will, and then Mr. Davenport will get neither the credit nor honor that he would if he were to publish it now.—EDITOR.]

Queen-Breeders and Their Difficulties

BY HENRY ALLEY.

On page 97 L. A. Smith complains of the bad treatment he received from two queen-dealers. I plead guilty to one of those complaints, as I find on referring to my book that Mr. Smith ordered a queen from me June 27, 1905. As I cannot now place my hand on his letter, I cannot say more about his order. Presumably he is correct in his statement. Had I so understood it, he surely would have had his money by return mail, as at that time of the season it is impossible for me to fill an order inside of a week. My wife records all orders and keeps my books and it is more than probable that she mentioned the fact to me, but as the queen was sent much later, and accepted, it seems to me he had no very great reason to complain. It was his duty to have returned the queen and demanded his money. I intend, in all cases when such orders are sent in, to return the money at once, as I cannot carry such business in my head, and I know of no other way to keep a record of orders of that kind.

In all my experience of 45 years in queen-rearing, I have never been able to fill all orders sent me for queens; but when a man wants a queen at once, as did Mr. Smith, I try to accommodate him; and as his order was out of the usual course, it brought me trouble. Last fall I returned several hundred dollars sent me for queens, as I could not begin to fill the orders. In many cases I wrote thus:

"I have queens, but the weather is unfavorable, and I will ship queen on certain date or return the money."

More than one hundred readers of the **American Bee Journal** can testify to the truthfulness of this statement. I have had no complaint from any one—not even from Mr. Smith. The principal part of Mr. Smith's complaint was the loss of the honey-flow, which he says was over when he received the queen. Now let us see about that part of it.

I received Mr. Smith's order June 27; he gave 5 days to fill it in—that would have been on July 2. Had the queen been mailed on that date, it would have required 5 or 6 days, at least, to have reached him at that far off part of the country (Montana)—that would have been July 7. Now, had he made a good job of introducing the queen, she would have commenced to lay in about 3 days more—say July 10. In 21 days more the young bees would have commenced to appear. That would be Aug. 1 or 2. In about a week more a few of the young bees would fly out, and in 10 days more would commence work. That would bring the bees working on the fall honey-flow about Aug. 15. But Mr. Smith says his flow of honey was over when he received the queen, which was Aug. 10, as the queen was mailed Aug. 4. So it will be seen that the bees from the "Adel" could not have been any good to him had she been mailed to him just as he requested. What does this show?

I will add a few words more and close. I do not plead guilty to "carelessness," by any means. On the other hand, I assert that I work hard every day to fill all orders promptly, and I believe all queen-dealers do the same. Experience has shown that only 3 dealers in queens and other supplies have been found dishonest in this country. I am going to say that 2 of them were women.

The late Samuel Wagner—the pioneer of bee-journalism—once said to me that a man attacked about the same as Mr. Smith attacks certain queen-breeders, loses nothing, as the careful reader can see that there is something back of it. If any one desires to attack me, by all means give my name. All I ask is, give me a chance to show my side of the question. I put up no jobs to cheat any one. I work 18 hours a day in the queen-rearing season to fill all orders promptly. I have a clear conscience, even if I cannot take care of all orders sent me. I am human, and shall continue to make mistakes, but I think 99 per cent of all my customers are well satisfied with the treatment they receive from me.

4.—Dadant Methods of Honey-Production

BY C. P. DADANT.

I SAID, in a previous article, that after a disastrous winter, we soon recuperated from our losses, owing to the large number of empty combs that we had to use. Some of my readers, however, may have read in "Advanced Bee-culture," by W. Z. Hutchinson, that in his experience with swarms hived upon drawn combs, "the loss has always been so great that it seems like folly to repeat it." This would apparently contradict my experience, but it does not, in fact. It has never been our method to depend upon natural swarming for increase, so that we do not usually practice hiving swarms upon drawn combs. But let us see how it is possible that swarms hived upon drawn combs may lose by it.

When the bees swarm, the honey crop is usually at its best or at least opening. As soon as the bees are hived, if they are supplied with full-built combs from colonies that have died, they at once unload their honey-sacs and start for the fields, and within two or three days—sometimes less—the combs are all filled with fresh honey. They may not be filled to overflowing, but as the honey is thin and watery when freshly harvested, the bees scatter it all over the hive and put some in almost every cell. The result is an entire lack of room for the queen to lay, and the colony soon dwindles, unless the honey has been extracted. Should the season stop suddenly, the queen will find room to lay, but in a locality where there may be no second crop, perhaps too many bees are reared at once which will find no occupation and will only help consume the stores before winter.

Our method is to make our increase artificially, as we then can get all the advantage there is in the saving of comb-building. Besides, there is a much more important point, and that is, we have noticed that the strongest colonies—those that are most likely to furnish increase in natural circumstances—are also the ones which will produce the most honey; while the weaker ones will rear bees a little late for the crop, and will be only fit for increase; but if they are left to their own devices, they will not swarm, and the result will be either no swarms or a decreased production of honey. But if we can make things comfortable enough for our best colonies, so that they will not get the swarming fever, except in rare instances; and if we manage to divide our poorer colonies, which are just becoming strong near the end of the crop, we will get both increase and honey.

But when we make our increase from the poorer colonies (mind, I do not say the poorest ones), we must be sure not to rear our queens from them, for we would fail in the most important matter. The queens must be reared from our best breeders, and supplied to divisions made from such colonies as will not be likely to produce a surplus crop. But we aim to keep whole our best colonies, for it is from them that the harvest is to come.

When the young queens are laying, they are supplied judiciously, from time to time, with combs already built secured from dead colonies, if we have them, or, with comb foundation, if no already built combs are found on hand and we have thus secured the very best results; for it is only the strongest colonies, supplied with a great field harvest, that can build comb to any advantage, and this is always done at great cost, in honey, for it takes them fully as long to build the combs as it would take to fill them, if they were given to them already built.

Artificial divisions or increase are made in a number of different ways, and this is left to the judgment of the apiarist, but the young queens must be reared from the best stock at as low a cost as possible, and furnished to the bees so as to have as little loss of time as possible, if we want to secure the greatest results. One swarm or division may be made from two colonies by taking brood from the one and bees from the other; or a colony may be split into three or four pieces, and each separate division helped by placing it on the stand of another colony. During a good honey-flow, we can manipulate our bees and mix them in many ways, for although they evidently realize that strangers are introduced into their home, those strangers never come empty handed if the crop is good, and they are as welcome among them as a stranger who comes among men with a gift or offer to pay his way.

We not only secure a larger crop of honey if we take the greater part of our increase from colonies which would otherwise produce no surplus, but we do away with the uncertainty of the expectation of increase by swarming. I have often heard apiarists express their disappointment at having had no natural swarms. I can see no disappointment in this, unless the crop has been an entire failure, for an absence of natural swarms is what I want. If I want increase, it can always be produced, especially if there are plenty of built combs at hand.

If the divisions, made from colonies that are under average, with breeders from the best stock, should prove to be insufficiently strong towards the end of the honey crop, they may be easily helped out with combs of brood and honey from the colonies that have produced a surplus, and such help, taken towards the end of the crop, will not perceptibly weaken the strong colonies, and will yet help the increase enough to make good colonies of them before the winter comes.

In all these matters, some knowledge of the conditions of the annual crop are necessary, and one must be guided to a great extent by the prospects and appearances of the honey crop. But we should bear in mind what I think is very important, that a colony that may not be sufficiently populous to fill its supers, will easily produce bees enough to build up an additional colony, if queen and combs are supplied, as the queen and the combs are the most expensive parts of the colony's resources. Much of our success depends upon due consideration of this matter. Hamilton, Ill.

Clipping and Filing Apiarian Oddities

BY W. A. PRYAL.

DID you ever know that a modern newspaper—the yellow kind, if you will—has a clipping and filing department that gathers all the items and articles concerning the various walks of life—all the biographies of men of any importance, even in remote villages of our country, all the inventions, discoveries, all the freak happenings of man or beast, and—well, everything that may be used for an article sooner or later, with what pictures that may be obtained bearing on the same—and files them away under a well-arranged index system? All that is interesting about bees and all that are jokes, even to the lies that crop up from time to time (for the filing department is not supposed to have an editor who knows everything), are filed under the general head of "Bees." When a racy article with suitable "art" embellishments is demanded by the editorial manager, the "Clipping Encyclopedia," if I may so name it, is brought forth and the reporter's "stew-pan" evolves an "interesting" (sic!) article on the bee. The Encyclopedia Britannica or the Century, or not even one of the numerous up-to-date bee-books, is consulted for authoritative lore on the little honey-gatherer. Then is it any wonder that we have such a hodge-podge lot of information thrown pell-mell at the public now and then? I have been led to make these remarks by several telegraphic news items I have seen in the daily papers of San Francisco during the past month.

I have been something of a clipping establishment myself—finger-nails have oftener received my attention in this direction than anything else. Queens' wings used to be a fascinating source of amusement for my proclivities a few years back, and it was a delicate operation, yet I remember that once or twice in my hustle I took off the royalty's ground propeller instead of her fairy air-movers. It was cruel, and it just pained me when the mishap occurred. It was almost as bad as if a dentist pulled off a man's leg when he intended to yank out an aching molar. But I am drifting from what I was going to write about.

This has been a "freak" year in California. We have had "freak" weather and we have been treated to "freak" crops. But, then, there is no place like California for all that. No sun-strokes, no one frozen to death, no thunder-storms, and seldom any lightning to speak of. Among the things I have seen in the papers the past month was one where a bee-keeper sacrificed his apiary to save the property of a neighbor. This may not be called freakish; heroism, I suppose, is the right name for it. This was in Southern California.

One item from up north a bit was where a swarm of bees lit on an Indian child and stung him to death. I suppose if the youngster was of the white race, and was not so rankishly odorous as the little redskin must have been, the bees would have spared the urchin. The result of the insult to the tribe of diggers was that the council held to settle the matter, issued a proclamation of war. Thereupon every Indian squaw, buck and papoose sallied forth and waged war upon the kingdom of the bees. The slaughter of the bees in that county was ruthless; honey flowed upon the ground, dead bees lay upon the sod, and many a lusty buck Indian writhed in the mud from the numerous stings hurled about his eyelids. I have not learned if the war is ended. Perhaps President Roosevelt might arrange for a Peace Commission to settle the trouble at our National Capital.

Here is another from upper California—in Lake County—and I hope the unfortunate gentleman referred to is no relative of the editor of the "Old Reliable." I might hint that the "House of York" should not have been vanquished by so small a fighter as a bee. I give the telegram in full:

"Santa Rosa, Calif., July 11.—Ed York, a resident of Upper Lake, returned to his home from this city on the evening train minus one of his legs. This is the result of the sting of a honey-bee and is one of the few cases on record where the sting of a bee has caused the loss of a leg. It is believed that the sting of the insect carried infectious matter into the man's system when it stung him, and that the result was blood-poisoning. Amputation was necessary to save the man's life. York was stung after he had left his home, and it was necessary to have the operation performed here before he could be removed to his home in the northern county. York suffered excruciating pains after blood-poisoning set in."

Did the man lose his leg through the sting of a bee? and where did the telegraphic writer, or the originator of the story, get his information that this "is one of the few cases on record where the sting of a bee has caused the loss of a leg?" I have never heard of such a case before; neither do I believe there is any record at all of such a case. It is very seldom, indeed, that a person is stung on the leg. There are other places where a sting might cause more serious trouble. In a case like the one reported, it may not be infectious matter that the bee injected into Mr. York's system, but, perhaps, the unfortunate victim's system was in bad condition, and the poison of the sting may have brought about a condition where the combination of several poisons brought on a third and dangerous. The statement that he was stung after he left his home, and had his leg amputated on his return, seems strong. I believe the report must be incorrect, unless the man had been away some time. I have heard of persons being blood-poisoned when away from home, but never by the sting of a bee.

From Southern California comes the record of a true hero, and his name should find a place in all apicultural records. The pity is that the brave boy gave up his life in his endeavor to save his sister. I give this clipping as it appeared in our daily papers of Aug. 10, 1905:

"San Bernardino, Calif., Aug. 9.—Cecil Sharpless, the 10-year-old son of C. W. Sharpless, a prominent apiarist who resides at Whittier, died this evening at 7:30 o'clock after suffering since this morning from a rattlesnake bite. With his sister he had gone to an apiary in Little Creek, 16 miles from here, and while the children were playing about the honey-house a rattler crawled from under the building in front of the girl.

"Cecil quickly seized the snake to save his sister, when the reptile buried its fangs in his right hand between the thumb and first finger. The little girl ran a quarter of a mile to where the father was working, screaming that her brother was being bitten by a snake.

"The father found the little boy in terrible agony, and sought an ammonia bottle which had been kept on hand for such emergencies, but the bottle was empty, and, tying a rope about the child's arm, he hurried with him to Glen Helen ranch, where the manager cut open the wound and, with his lips, tried to suck out the poison. The swelling of the arm continued, and the boy was hurried to town in a wagon. The horses ran away and the boy had his foot crushed. His hand is as black as coal to the wrist and the arm is swollen to twice its normal size."

San Francisco, Calif.

The Premiums we offer are all well worth working for. Look at them in this copy of the American Bee Journal.

What I Do With a Crop of Honey

BY C. W. DAYTON.

It is 32 miles from our place here to Los Angeles, and 6 miles farther to Florence, in the southeast part of the city, where our other place is located. At Florence there is a completely furnished 7-room house, shops, honey-house, barn and wagon shed, and usually a fair-sized apiary amongst grape-vines and numerous fruit-trees. We own both places—no rents, no debts. We produce our honey at Chatsworth, and take it to Florence to sell it. If the distance was 500 miles the same tactics would be followed. When we bought, at Florence, 9 years ago, it was in the country, but it is now thickly settled—houses and stores all around. Then land was $150 per acre; now $2,000, or more.

When I get ready to sell some honey I put it on the train here at Chatsworth, so that I can get it from the freight depot as I pass through Los Angeles. I pay 15 cents per 100 pounds to ship it rather than haul it over the 32 miles of rough and dusty roads. I choose a time when the roads are good, and the moon lights the way. I retire at 7 in the evening; and awake at 12 or 1 o'clock; hitch up and start out, coming into the city at 10 or 11 o'clock in the forenoon, and go to my brother-in-law's for dinner.

After dinner, of this trip, I took a stroll around amongst the commission and wholesale houses with a quart jar of honey in hand. I took this time 48 quart jars of honey to the city by wagon. The best that was mentioned was 4½ cents for water-white, and they were not disposed to buy at that price. Everybody seemed to have plenty of honey on hand.

As my friends urged me to remain till morning before proceeding to Florence, I set out to devise some way to "while away" the afternoon, so I unloaded most of the cases of honey and started from near the center of the city to peddle out the four dozen quart jars and six 60-pound cans in cases. These last I took along to make my load "show up."

The city is "lousy" with truck-wagons carrying vegetables, fruit and a large share honey also. Everybody knows the contents of these wagons, but mine was different, and drew some curiosity. I want no letters—let them come and see what my wagon contains. They recognize the cases as "original packages" as honey comes in from the mountains, and if it is allowed to pass their houses and reach the dealers' hands there will be several middle-mens' profits to pay. My wagon-box is small and low-down, so that a few cases of honey appear like considerable of a load. These trucksters buy only a case or a single can at a time; keep it at home, from which they pour out from two to six jars full of honey, sufficient for a day on the wagon.

It was 2:10 when I started and 5:45 when I returned in the evening. Entirely new territory. I sold 39 quart jars at 25 cents each for the honey they contained, and one 5-gallon can divided among three families at 7 cents a pound, by the gallon. I received $13.95, net, for all. If I had sold that 177 pounds at the wholesalers' it would have brought $7.08, net, after deducting the cost of cans and cases—a difference of $6.87. Besides, I was paid 5 cents each for a number of jars for which I paid only 3 cents each.

It has been pretty well settled that it costs 4 cents a pound to produce honey, yet 4 to 5 cents are amongst the high figures which have been prevailing here! Now, if I keep on selling 177 pounds a day, and working only 3½ hours a day, my 12 tons will all be gone in less than 6 months, and will have rendered a profit of more than equal to a crop of 50 tons at 5 cents a pound. It takes hired help to handle 50 tons and about five times as many bees to produce 50 tons as to produce 12 tons.

It used to be said that "bees work for nothing and board themselves." When that was true the woods swarmed with venison, the pasture on the clearings was free to anybody's cattle which could find it, and fences were built with walnut rails.

I waited in a new store 40 minutes while the store-keeper waited on several customers, hoping that I could sell him 10 jars, which would entirely clear up my four dozen; but he took only one jar for his own family, and said that his trade seemed to demand nothing larger than a 10-ounce tumbler, a few of which he already had.

To procure, wash and fill three dozen jars to replace those sold kept me till 9 o'clock the next morning. On the way to Florence I sold $9 worth, arriving about 11:30 a. m.; but I went to two boarding houses where I sold 5-gallon cans last April. At one there was about one-fourth of the can unused. The landlady said they got down to the sugar it was adulterated with, and stopped using it! I offered to buy it at the same price they paid me. While she went to ask the landlord about selling it, the hired girl said they would not sell it—the man told her to leave it off the table because the boarders ate it so greedily!

When the landlady returned she talked about anything but selling their can of honey, and asked me to come again in a week or two, when they would probably want another can. But I am tired of the 5-gallon-can deals. If they had bought it by quarts they would have used three times 20 quarts by this time, and I would have $5 per can instead of $4.20 and the loss of my can; better satisfaction, and especially, no granulation.

I ached to build up a market there by my brother-in-law's. It would be my delight to stay and sell out a nice little load of honey every day. How it pleased those people to get something wholesome! Nearly every one warmly invited me to come again. I gave them much logic along the lines of apiculture and health, which they freely grasped and looked forward to learn more. After a man bought a jar I was more courteous to him than ever. The longer you can cause a purchaser to stand around your wagon with a jar of honey under his arm the better. Remember that people like to buy honey, but do not like to have it sold to them. It is hard to be obliged to forsake people after such delightful chance acquaintanceship. But I must do it. Los Angeles is too large a city. I have my market at Florence awaiting the delivery of the same goods.

Although at my brother-in-law's I sold enough to make wages, still I drove from 10th to 28th Streets (Florence is 80th Street), a distance of 1½ miles and return. It was like Mr. Root going to Xenia—"hit the road in the high places." So I hit the demand for honey only in the high places. I could have sold it within a distance of a few blocks. In fact, there are 150 houses in the same block in which my brother-in-law lives. In a few years' time I could induce every family in that block to use honey regularly. We sold to every family at Florence. It took four or five years to "fetch" some of them. We did not give up because a family refused honey once. We kept the stone a-turning, and in time the constant grind wore away all obstructions. We laid our plans for a long job.

One of the apparently hopeless cases at Florence consisted of the old people and three sons-in-law, living separately. They moved there from a part of the United States where there was not much honey produced, but much pork and molasses. Honey went particularly against their "grain." They saw us sell to others until they got a hired man from a honey-eating family. This hired man *would* have honey if he had to pay for it out of his own purse. So they bought honey for the "hired man." The 5-year-old boy took a liking to the "hired man's honey"; and when the hired man went away the child begged for honey. The mother also began to suspicion that honey was good. We got them all.

Honey is easy of digestion, and better digestion improved the tone of their stomachs. A healthy stomach reviles sugar, glucose, meat, grease and pastry sooner than a stomach which is not so healthy. It may not receive so much injury as a poor stomach, but it gives more pain, and pain is what the consumer is most likely to judge by. The longer they continue on the nutritious food, the farther they get from being able to return to the less nutritious, and the butcher, the baker and candyman all seem to be striving to get the consumer into his coffin. Any bee-man who half understands his job can see that he has the consuming public at his mercy. It is simply "come to honey, or go on dragging out your miserable lives." Gab and appearance count for a whole lot, but quality is the "drawing card."

Take the cap off the jar, and while they are tasting with a lead-pencil, tooth-pick or knife-blade, lay the open jar down on the step and roll it over once or twice and take it up again before the honey runs out. If you waste no time and make no fumbles you may learn to do it with quite thin honey. But I did not need to hurry, and purposely made a few fumbles, and they took me for a very ordinary sort of "mossback," and needing *a little money*.

Chatsworth, Calif.

Preliminary List of Honey-Yielding Plants of Texas

BY LOUIS H. SCHOLL.

It is well known that a successful bee-keeper must know his honey-yielding flora upon which he depends. The bee-keepers' attention has been called to this, time and again, so much so that it is hardly necessary for me to dwell upon that subject. It is a fact, however, that, to be *successful*, a bee-keeper must know something about botany as well as keeping bees. Entirely too many bee-keepers are not botanist enough.

Below will be found a list of plants of Texas, of which I have collected specimens for an herbarium of Texas honey-yielding flora, since 1899. Every specimen was taken upon seeing bees visiting it, and my observations upon most of the plants extend over a period of several years. Besides those given in the list there are about 80 specimens of my collection which have not yet been identified. As soon as this has been done, these, and new ones, will be added. It is also my intention to give, every month, as far as possible, a more complete list, with fuller descriptions, and the value and distribution of the plants blooming in each month. By following these references the bee-keeper should be enabled to acquaint himself quite well with the honey-yielding plants that may come within his range.

For convenience, the list has been largely arranged after Coulter's arrangement of Families in his "Botany of Western Texas," as this was mainly used for reference. My thanks are due Prof. Hilje Ness, formerly Professor of Botany, and Mr. Wilmon Newell, formerly Apiarist, of Texas A. and M. College; and Prof. John H. Schaffner, Associate-Professor of Botany, Ohio State University, for valuable help received.

Honey-Yielding Flora of Texas—with the Family to which they belong, their Botanical and Common Name, their Importance and Time of Blooming.

BERBERIDÆ. Barberry Family.

Berberis trifoliata—Moric.
Triple-leafed Barberry.

Honey and abundant pollen; very early in the season; good for early brood-rearing. January, February.

PAPAVERACEÆ. Poppy Family.

Argemone platyceras—Link and Otto.
Prickly Poppy.

Unimportant for honey, but an abundance of pollen during the dearth of summer. May, July.

Papaver rhoeas—L.
Poppy.

Cultivated in flower-gardens; not important.

CRUCIFERÆ. Mustard Family.

Brassica nigra—(L.) Koch.
Black Mustard.

Bees sometimes busy on it. June, July.

Brassica rapa—L.
Common Turnip.

Bees gather honey and pollen from the blossoms. June, July.

Greggia camporium—Gray.
Greggia.

Very early, but not abundant; honey and pollen; helps early brood-rearing. February.

Lepidium virginicum—L.
Pepperwort. Pepper Grass.

Not important; some pollen. Summer.

RESEDACEÆ. Mignonette Family.

Reseda odorata—L.
Mignonette.

Honey-yield good, but plants not plentiful; pollen. Cultivated. June, July.

PORTULACACEÆ. Purslane Family.

Portulaca grandiflora—Hook.
Portulaca.

Honey-yield good, as it comes in the dearth when few others are in bloom; also an abundance of pollen. Cultivated. June to frost.

TAMARISCINEÆ. Tamarix Family.

Tamarix gallica—L.
Tamarisk. Salt cedar.

Bees work on it, but scarce. Cultivated. May, June.

MALVACEÆ. Mallow Family.

Callirhoe digita—Nutt.
Fringed Poppy Mallow.

Honey-yield not important; some pollen. May, June.

Gossypium herbaceum—L.
Cotton.

One of the main sources for surplus in the State, throughout the "cotton belt"; honey-yield good, and white honey of good quality; white pollen. Also nectar-glands on ribs of the leaves, and on bracts of the buds, blooms and bolls. Cultivated extensively. June to frost.

Hibiscus syriacus—L.
Shrubby Althea. Rose-of-Sharon.

Bees work busily on it sometimes, but unimportant; honey and pollen. Cultivated, but few. May, September.

Malvaviscus drummondii—Torr and Gray.
Spanish Apple.

Unimportant. Summer to fall.

Sida angustifolia—Lam.

Bees found on it; pollen. Spring to fall.

Sida spinosa—L.

Some honey and pollen. Not important. Summer.

TILIACEÆ. Linden Family.

Tilia americana—L.
American Linden. Basswood.

Yields large quantities of excellent honey. The main source in the timbered section of east Texas. May, June.

ZIGOPHILLEÆ. Bean-caper Family.

Kallstroemia maxima—(L.) T. and G.
Greater Caltrop.
Honey-yield good in the mornings, blossoms closing by noon except in cool and damp weather; an abundance of pollen. Good, as it comes in dearth of summer.

Tribulus cistoides—L.
Large-flowered Caltrop.
Honey-yield as above. April, August.

GERANIACEÆ. Geranium Family.

Oxalis stricta—L.
Yellow Wood-Sorrel.
Not plentiful for bee-forage. Summer.

RUTACEÆ. Rue Family.

Citrus trifoliata—L.
Hardy Orange.
Honey-yield fair for early brood-rearing. Cultivated and scarce. March.

Ptelia trifoliata—L.
Hop-Tree.
Honey-yield good; very good in favorable seasons where abundant. May, July.

Xanthoxylum clava-herculis—L.
Prickly Ash. Toothache Tree. Sea Ash. Pepper Wood.
Good honey-yield; bees work busily on it. April, June.

SIMARUBACEÆ. Quassia Family.

Ailanthus glandulosa—Desf.
Tree-of-Heaven.
Honey-yield fair in favorable seasons; pollen. Also nectar-glands on leaf blades. April.

MELIACEÆ. Melia Family.

Melia azedarach—L.
Umbrella China Tree.
Honey-yield early, and helps early brood-rearing. Cultivated and escaped. February, March.

ILICINEÆ. Holly Family.

Ilex caroliniana—Trel.
Youpon.
Not important. March, April.

Ilex dicidua—Walt.
Possum Haw. Bearberry. Youpon.
Honey-yield good, but short. In warm seasons earlier, and good for early brood-rearing. March, May.

RHAMNEÆ. Buckthorn Family.

Berchemia scandens—Trel.
Rattan Vine.
Honey-yield good, giving surplus in favorable seasons, but dark amber, and used by manufacturing houses. April.

Colubrina texensis—Gray.
Honey-yield good, but no surplus; some pollen. April.

Condalia obovata—Hook.
Brazil Wood. Logwood.
Not very important, but comes well in dearth of summer. July, August.

AMPELIDACEÆ. Vine Family.

Cissus incisa—Desmond.
Cow Itch Vine.
Keeps bees out of mischief during dearth; surplus where plentiful. April, August.

Vitis monticola—Benkley.
Mountain Grape.
Valuable for brood-rearing. March.

Vitis (Varieties?)
Cultivated Wine Grapes.
Good for pollen. April, May.

SAPINDACEÆ. Soapberry Family.

Cardiospernum haliescabum—L.
Balloon Vine.
Honey-yield fair, but plants not abundant. April, July.

Sapindus marginata—Willd.
Soapberry. Wild China.
Honey-yield good; heavy flow in favorable seasons; gives surplus. June.

Ungnadia speciosa—Endle.
Mexican Buckeye.
Honey-yield good in dearth, but not plentiful. July.

ANACARDIACEÆ. Sumac Family.

Rhus capolina—L.
Sumach.
Good, giving surplus in favorable seasons, depending upon rains. August.

Rhus virens—Lindl.
Green Sumach.

LEGUMINOSÆ. Pulse Family.

Acacia armentacea—D. C.
Of no importance; bees gather pollen from it occasionally. Early summer.

Acacia berlandierii—Benth.
Huajilla.
Honey-yield heavy, and one of the main surplus yielders in Southwest Texas. Honey of fine quality, white, and considered the best quality honey in Texas. April.

Acacea farneciana—Willd.
Huisache.
Good for stimulating early brood-rearing; honey and pollen. February, April.

Acacia greggii—Gray.
Cat'sclaw. Devil's Claw. Paradise Flower.
Abundant honey-yield, and a main yielder of fine quality surplus honey of Southwest Texas. April, again in June.

Acacia roemeriana—Schlecht.
Round-flowered Cat'sclaw.
Honey-yield heavy, and of fine quality, but plants not abundant. April, May.

Acacia wrightii—Benth.
Texas Cat'sclaw.
Honey-yield very abundant; a main surplus yielder of fine quality honey of Southwest Texas. April.

Albizzia julibrissin—Durazz.
Fair yielder of honey and pollen, but trees scarce. Cultivated. May, July.

Astragalus mexicanus—A. DC.
Mexican Ground Plum.
Honey-yield abundant when season is favorable; drouth injures it.

Cercis canadensis—L.
Red Bud. Juda's Tree.
Honey-yield fair, aiding in early brood-rearing. March, April.

Daubentonia longifolia—(Car.) D. C.. Mem.
Commonly called "Cassia."
Bees on it frequently, but apparently of little value. July, September.

Dolichos lablab—L.
Japanese Delchos.
Unimportant; no bees on it when others in bloom. Cultivated. June, August.

Eysenhardtia amorphoides—H. B. K.
Eysenhardtia. Rock Brush.
Honey-yield abundant, of fine quality honey; blooms after heavy rains several times in a season. March, May.

Gleditschia triacanthos—L.
Honey Locust.
Very heavy honey-yield, but of short duration. April 15-25.

Lupinus subcarposus—Hook.
Blue Lupine. Blue Bonnet.
Honey-yield good, and pollen of very bright and orange colors. March, April.

Medicago denticulata—Willd.
Medick. Burr Clover.
Honey-yield sparingly in summer; some pollen. Not important.

Medicago sativa—L.
Alfalfa or Lucerne.
Honey-yield fair; better in irrigated regions. Cultivated for hay crops. Early summer and fall.

Melilotus alba—Desv.
Sweet Clover.
Good honey-yield, of fine quality honey. Not abundant in Texas, and should be planted for honey in waste lands. June, September.

Melilotus officinalis—(L.) Lam.
Yellow Sweet Clover.
Claimed to be superior to and earlier than M. alba. May, September.

Neptunia lutea—(Leavenw.) Benth.
Not plentiful; bees rarely found on it; some pollen. May.

Parkinsonia aculeata—L.
Retama.
Bees work on it more or less all summer. May, September.

Pisum sativum—L.
Garden Pea.
Unimportant; some pollen; not visited much by bees. March, April.

Prosopis juliflora—D. C.
Mesquite Tree. Screw Bean.
The chief woody plant throughout the Southwest Texas prairies. Honey-yield abundant, and one of the main sources of the State, of good, light honey. April, again in June.

Robinia pseudacacia—L.
Black Locust.
Honey-yield early, and good if no cold weather strikes it; not abundant, and a cultivated tree sometimes. March, April.

Schrankia angustata—Torr. and Gray
Sensitive Briar.
Not important for honey; some pollen. Plants scarce. April, September.

Trifolium pratense—L.
Red Clover.
Not important here in the South; rarely cultivated, and deep corolla tubes. Summer.

Trifolium repens—L.
White Clover.
Not important in the South; conditions for these clovers are unfavorable.

Vigna sinensis—(L.) Endl.
Cow Pea.
Honey-yield good, fair quality and light color. Cultivated. June, August.

ROSACEÆ. Rose Family.

Amygdalus persica—L.
Peach.
Honey-yield good, and with "fruit-bloom" builds up colonies in spring. Cultivated. February, April.

Cratægus arbore scens—Ell.
Hawthorn. White Thorn.
Honey and pollen; bees found busy on it. April.

Cratægus spatulata—Mx.
Hawthorn. White Thorn.
Another species same as the above. April.

Malus malus—(L.) Britt.
Apple.
Honey-yield early; helps in brood-rearing; good where abundant. Cultivated. March, April.

Prunus domestica—L.
Cultivated Plum.
Early, and good honey-yield; helps to stimulate early brood-rearing. Cultivated. February.

Rosa.
Rose.
Unimportant, but bees gather pollen from it sometimes. Cultivated. Early spring to late fall.

Rubus trevialis—Mx.
Dewberry.
Honey and pollen; bees on it busily. April.

Spiræa virginica—Britt.
Bridal Wreath.
Unimportant; bees sometimes on it. Cultivated ornamental shrub. March.

LYTHRARIEÆ. Loose-strife Family.

Lagerstrœmia indica—L.
Crepe Myrtle.
Honey-yield occasionally good, and visited much by bees. Cultivated ornamental shrub. June, October.

ONAGRARIEÆ.
Evening Primrose Family.

Gaura filiformus—Small.
Honey-yield sometimes good, and yielding surplus in spurts when favorable seasons and rains prevail. June, October.

Jussiæa diffusa—Forskl.
Jussiæ.
Honey-yield good, but not abundant; good during dearth in summer, as it grows in edge of waters and not affected by drouth, but better with rains. June, August.

CUCURBITACEÆ. Gourd Family.

Citrulus citrulus—(L.) Karst.
Watermelon.
Honey-yield abundant during dewy mornings; also pollen. Cultivated. Early summer to late autumn.

Cucumis melo—L.
Muskmelon.
Good honey-yield in dewy mornings; also pollen. Cultivated. July, September.

Cucumis pepo—L.
Common Pumpkin.
Not important for honey, but abundant pollen. Cultivated. May, June.

Cucumis sativus.
Cucumber.
Honey-yield good, but of short duration; also pollen. April, July.

Cucurbita foetidissima—H. B. K.
Wild Gourd.
Not important; good for pollen, but plants not abundant. April, July.

ELAEAGNACEÆ. Oleaster Family.

Elaeagnus angustifolia—L.
Sweet Olive.
Honey-yield good, but plants scarce. Cultivated ornamental shrub. April.

Elaeagnus argentia—Pursh.
Silver Berry.
Honey-yield abundant, but plants scarce. Cultivated. October, November.

CACTACEÆ. Cactus Family.

Opuntia englemannii—Salm. Dyk.
Common Cactus or Prickly Pear.
Abundant honey-yield; sometimes surplus, but rank flavor. May, June.

CORNACEÆ. Dogwood Family.

Cornus asperifolia—Mx.

Dogwood.

Bees roam over blossoms, and honey-yield good; but species not plentiful. March, April.

CAPRIFOLIACEÆ. Honeysuckle Family.

Lonicera albiflora.

White-flowered honeysuckle.

Honey-yield good, but few plants. Cultivated. May, July.

Lonicera fragrantissima—Lindl.

Bush Honeysuckle.

Honey-yield extremely early, and valuable to stimulate bees if weather is favorable; also pollen; but plants few. Cultivated. January.

Sambucus canadensis—L.

Elder.

Honey-yield good, but not plentiful. April, May.

Symphoricarpos symphoricarpos—(L.) McM.

Coral Berry.

Honey-yield good, and of long duration, but not abundant. July, September.

Viburnum rufotomentosum—Small.

Black Haw.

Honey-yield early; valuable for brood-rearing.

RUBIACEÆ. Madder Family.

Cephalanthus occidentalis—L.

Button Willow.

Bees work on it. July.

Diodea teres—Walt.

Button-weed.

Honey-yield good, and valuable, as it comes during dearth. No surplus. July, August.

Houstonia angustifolia—Mx.

Houstonia.

Bees work on it well, but plants not abundant. May, July.

COMPOSITÆ. Composite Family.

Ambrosia aptera—D. C.

Tall Ragweed.

Some honey; more pollen, of a resinous nature. July, August.

Ambrosia artemisiæfolia—L.

Roman Wormwood.

Probably pollen only. June, October.

Ambrosia trifida—L.

Great Ragweed.

Honey-yield not important, but yields pollen. July, August.

Centaura americana—Nutt.

American Knapweed.

Not important. July, August.

Cnicus altissimus—Willd.

Blue Thistle.

Honey-yield unimportant; some pollen. July, August.

Gaillardia pulchella—Fang.

Marigold.

Honey-yield good; a main yielder of surplus, of good quality, but dark, amber honey. May, June.

Guttierezia texana—Torr. and Gray.

Broomweed.

Honey-yield good in the fall for winter stores; dark amber, and strong in flavor. August, October.

Helenium tenuifolium—Nutt.

Sneezeweed. Bitterweed.

Honey-yield good in favorable seasons, and surplus sometimes, of rich golden-colored honey of heavy body, but very bitter as if 50 percent. of quinine and some pepper was added to it; also pollen. East Texas. June to frost.

Helianthus anuus—L.

Common Sunflower.

Honey-yield sometimes good in the fall, but strong in flavor; much propolis gathered from the large composite heads of the flower and the stems and leaves of the plant. May, September.

Parthersium hysteraphorus—L.

Honey good in favorable seasons, otherwise not of much importance; white pollen. April to frost.

Rudbeckia hirta—L.

Coneflower. Niggerhead.

Of no importance; bees gather propolis from the resinous heads sometimes.

Rudbeckia bicolor—Nutt.

Coneflower. Indianhead.

Of no importance; propolis from the resinous heads, sometimes. May, June.

Solidago.

Goldenrods.

There are several species, and bees work on the flowers sometimes, but not of much importance. September.

Tagetes patalus—L.

Marigold.

Bees only occasionally visit it. Not abundant. Cultivated flower. Summer.

Taraxacum officinalis—Weber.

Dandelion.

Not important.

Verbesina virginica—L.

Virginian Crownbeard.

Honey-yield very abundant, depending upon seasons; fine quality honey; surplus in good seasons. October, November.

Xanthium canadense—Mill.

Cockle-burr. Clot-burr.

Not important; furnishes some pollen late in the fall. September, October.

SAPOTACEÆ. Sapodilla Family.

Bumelia angustifolia—Nutt.

Narrow-leafed Ironwood.

A specimen sent from West Texas.

Bumelia lanuginosa—Pers.

Gum-elastic. Shittim-wood.

Honey-yield abundant, but of very short duration. June 25-30.

EBENACEÆ. Ebony Family.

Diospyros texana—Scheele.

Texas Persimmon.

Honey-yield abundant; not harmed by showers on account of bell-shaped flowers. April.

Diospyros virginiana—L.

Common Persimmon.

Honey-yield good, but short, and trees not very abundant. **April.**

OLEACEÆ. Olive Family.

Ligustrum vulgare—L.

Privet.

Honey-yield good, but flowering plants scarce, as it is an ornamental shrub, kept trimmed in various shapes and in hedges. April, May.

ASCLEPIADEÆ. Milkweed Family.

Asclepias.

Milkweed. Silkweed.

Honey-yield good, but pollen attaches to bees' feet and cripples them. March.

HYDROPHYLLACEÆ. Waterleaf Family.

Phacelia conjesta—Hook.

Dense-flowered Phacelia.

Honey-yield sparingly. April, June.

Phacelia glabra—Nutt.

Phacelia.

On prairies of East Texas. March, April.

BORAGINEÆ. Borage Family.

Borago officinalis—L.

Borage.

Bees work busily on it during summer, but scarce. Cultivated. June, August.

CONVOLVULACEÆ. Convolvulus Family.

Ipomea caroliniana—Pursh.

Morning-Glory.

Honey-yield light; some pollen. Summer.

SOLANACEÆ. Nightshade Family.

Solanum rostratum—Dumal.

Nightshade.

Very little honey; some pollen. May, October.

BIGNONIACEÆ. Bignonia Family.

Campsis radicans—(L.) Seem.

Trumpet creeper. Trumpet flower...

Honey-yield of little importance; external nectar-glands; pollen from stamens of the flowers. Summer and fall.

VERBENACEÆ. Vervain Family.

Callicarpa americana—L.

French Mulberry.

Honey-yield only fair. May.

Lantana camara—L.

Lantana.

Bees seldom on it. April, October.

Lippia ligustrina—Britt.

White Brush.

Honey-yield very heavy, of fine quality honey, but of very short duration, only a few days. Blooms several times after rains during the season. May, November.

Lippia nodiflora—(L.) Mx.

Spatulate-leafed Fog-fruit.

Honey-yield very light and of little importance. July.

Salvia azurea—Larn.

Blue Sage.

Deep corollas, and visited much more frequently by bumble-bees. April, October.

Salvia roemeriana—Scheele.

Roemer''s Sage.

Unimportant as a honey-plant; not abundant, and deep corollas. Summer.

Verbena urticifolia—L.

Large-flowered Verbena.

Verbena xutha—Lehm.

Blue Vervain.

Honey-yield sparingly, and scattering throughout the season. April, August.

LABIATÆ. Mint Family.

Coleus blumei—Benth.

Coleus.

Not important; bees gather pollen from it occasionally. Cultivated in flower-beds. July.

Marubium vulgare—L.

Common Hoarhound.

Honey-yield abundant, steady flow, of dark amber honey; claimed bitter by some. February, July.

Monarda clinopodioides—Gray.

Horsemint.

Honey-yield abundant; one of the main surplus yielders; honey of good, light quality, somewhat strong-flavored, and compared to basswood honey. May, June.

Monarda fistulosa—L.

Wild Bergamot.

Honey-yield good, but plants not abundant. May, July.

Monarda punctata—L.

Horsemint.

Honey-yield same as of **M. Clinopodioides.** May, July.

Nepeta cataria—L.

Catnip.

Unimportant. Summer.

Scutellaria drummondii—Benth.

Drummond's Scull-cap.

Honey abundant in spring; much visited by bees. May, April.

AMARANTHACEÆ. Amaranth Family.

Amaranthus retroflexus—L.

Common Pigweed.

Of little importance; some pollen. July, September.

Amaranthus spinosus—L.

Spiny Amaranth.

Not important; presumable pollen only. August.

POLIGONACEÆ. Buckwheat Family.

Fagopyrum fagopyrum—(L.) Karst.

Japanese Buckwheat.

Honey-yield fair in favorable and damp weather; honey dark and strong flavor. Cultivated; very little. June, July.

LORANTHACEÆ. Mistletoe Family.

Phoradendron flavescens—(Pursh) Nutt.

American Mistletoe.

Honey-yield abundant and also pollen; very valuable for early brood-rearing. It is the first source for bees in the season. December, January.

EUPHORBIACEÆ. Spurge Family.

Croton capitatus—Mx.

Unimportant; some pollen when no other bloom. July, September.

Croton monanthogynus—Mx.

One-seeded Croton.

Honey-yield fair, but not important. May, June.

Croton sonoræ—Torr.

Sonora Croton.

Honey-yield only light; but comes in dearth, and good if rains; pollen. July, August.

Croton texensis—(Klotzech) Muell.-Arg.

Texas Croton.

Honey-yield very light; not important. June, August.

Euphorbia marginata—Pursh.

Spurge.

Of no importance. Summer and fall.

Recinus communis—L.

Castor-Oil Plant.

Honey-yield good in favorable seasons; external nectar-glands at base of leaves; pollen. Cultivated. March, April.

URTICACEÆ. Nettle Family.

Celtis mississippiensis—Bosc.

Hackberry.

Honey-yield fair; valuable for pollen in spring. March, April.

Celtis occidentalis—L.

Honey-yield fair; much pollen; valuable for early brood. March, April.

Celtis pallida—Torr.

Granjeno.

Valued as an important forage plant for bees in Southwest Texas.

Toxylon pomiforum—Raf.

Osage Orange.

Scarce, and not important. April.

Ulmus americana—L.

American or White Elm.

Honey-yield good, but species not very plentiful. August.

Ulmus alata—Mx.

Winged Elm or Wahoo.

Honey-yield good, giving surplus where abundant; much pollen. Honey of amber color, and strong, characteristic aroma. August, September.

JUGLANDEÆ. Walnut Family.

Hicoria alba—(L.) Britt.

Mockernut. White-heart Hickory.

Some honey and pollen. March.

Hicoria pecan—(Marsh) Britt.

Pecan-Nut.

Honey-yield where plentiful; valuable for brood-rearing on account of its pollen. March.

Juglans nigra—L.

Black Walnut.

Some honey; more pollen; good to stimulate bees. March.

CUPULIFERÆ. Oak Family.

Quercus aquatica—Walt.

Water-Oak.

Bees obtain pollen. March.

Quercus minor—(Marsh) Sarg.

Post-Oak. Iron-Oak.

Honey-yield only fair, of inferior quality; abundant pollen for early brood-rearing. March, April.

Quercus nigra—L.

Black Jack or Barren Oak.

Early pollen. March, April.

Quercus palustris—Du Roi.

Swamp, Spanish or Pin Oak.

Honey-yield good; and pollen for brood-rearing. March, April.

Quercus rubra—L.

Red Oak.

Pollen. March, April.

Quercus virginiana—Mill.

Live Oak.

Honey-yield good, of poor quality, dark, but with abundant pollen; valuable for early brood-rearing. March.

SALICINEÆ. Willow Family.

Populus moniliferæ—Ait.

Cottonwood. Necklace Poplar.

Some honey, but more pollen; valuable for early brood-rearing. March.

Salix nigra—Marsh.

Black Willow.

Honey and abundance of pollen: valuable for early brood-rearing. February, April.

LILLIACEÆ. Lily Family.

Asparagus officinalis—L.

Asparagus.

Not important for honey, but good for pollen. March, April.

Smilax bona-nox—L.

Green-briar. Cat-briar.

Honey-yield fair, but of short duration. April.

COMMELINACEÆ. Spiderwort Family.

Commelina virginica—L.

Virginian Spiderwort.

Honey-yield unimportant; valuable for pollen. April, May.

Tradescantia gigantea—Rose.

Spiderwort.

Unimportant for honey, but good for pollen. Spring and summer.

GRAMINÆ. Grass Family.

Sorghum vulgare—Pers.

Sorghum.

Some honey, but an abundance of pollen. Cultivated. June, August.

Zea mays—L.

Indian Corn.

Not positively known if maize yields honey, but abundant pollen. Cultivated. May, June.

Convention Proceedings

Chicago-Northwestern Convention Report

The annual meeting of the Chicago-Northwestern Bee-Keepers' Association was held in Chicago, Dec. 19, 1905.

The meeting was called to order by Pres. George W. York at 11:30 a. m. Invocation by Rev. Robert B. McCain.

Pres. York stated the purpose of the present session was intended to be largely social, and the business session for the election of officers and other matters would be held in the afternoon. He called for suggestions for the present session which might make the occasion one of profit and pleasure.

By way of introduction, each person present was requested to rise and announce his name, if not already known by the President.

Pres. York—I am ready for any suggestions for this meeting.

Rev. McCain—I do not know whether I speak for any one but myself or not, but I have observed that the question-box is always interesting, and if there is no better suggestion, I would suggest that the questions be prepared, and that we discuss them.

Comb Honey or Extracted—Which?

"Which has the most promising future before it, comb honey or extracted?"

Pres. York—I think I know how Dr. Bohrer would answer this question, but I am not going to call on him first. We will let him talk after a while. What do *you* think, Mr. Hilton?

Geo. E. Hilton—So much depends upon circumstances. It is rather a hard question to answer, in my opinion. Of course, if we restrict ourselves to any particular territory, we could say comb honey in one place and extracted honey in another place. But taking the whole territory represented by the National Association, the possibilities are that extracted honey will predominate in the future. While comb honey is a fancy article, it perhaps will remain a fancy article and not remain so much an article of commerce, perhaps, as extracted honey will. Our large producers are producing extracted honey. You are well aware that my specialty is comb honey, but I do believe that the large aggregate of honey that is going to be produced in future will be extracted honey, from the standard of tons and carloads.

Pres. York—I wanted Mr. Hilton to speak first, because he is now Vice-President of the National Association. Has anyone else anything to offer on this subject? I know Dr. Bohrer wants to talk, and so we will hear from him now.

Dr. G. Bohrer—I did not know I had acquired a reputation for being a talker. I have always tried to be modest. My wife took that in hand some time ago. She is my senior by four years, and said she "took a boy to raise." Mr. Hilton has voiced my sentiments, even if it does not amount to what he thinks it will. That is, extracted honey will predominate in the future. It most unquestionably ought to, because more honey can be produced by that method. It can be put upon the market cheaper than in any other form, and, besides, it is a more wholesome article of food in that shape. Beeswax is no more digestible than diamond stone, and if it has any effect at all, it is positively an irritant to the stomach. I have witnessed that in my practice of medicine. A number of cases of cancer of the stomach and other digestive organs have come under my care. For those patients, I have found extracted honey better than any other article of diet, while the patient could not bear at all honey containing wax. While honey is a little more enticing and attractive in the comb, I have learned not to want to eat everything that looks nice. There are people who will argue that there is such a thing as "artificial comb," and that bee-keepers all around are buying glucose by the carload and filling the comb that is constructed artificially, sealing it over and offering it for sale. Last winter, in Topeka, I got up before an audience of many more people than are here to-day, and offered $500 for a section 4¼x4¼ filled with artificial comb and with artificial honey. A man offered to bring in the combs. I appointed a committee to examine the combs, and asked him if he were satisfied with the committee. He said he wanted them to be skilled bee-keepers. I selected three men, and they pointed out to him at once that the sections were not alike. I said, "You can see, my friend, if they were made by machinery, they both would be alike, and they are not. Here is one section filled out to the edge of the comb and is capped over; here is another that the cells are not filled out, they are not fully constructed, and not filled with honey." He said he could see the point to that, but he still wanted to get his $500, and he said, "I think they have a machine for each section." I asked if that would not require a large amount of machinery. He was finally convinced that the thing is simply impossible. Here is a sheet of wax; you can stamp cell-foundations on both sides of it, but it is not artificial comb—only artificial comb foundation, until the bees draw out the cells. We can go that far, but no farther. If we could pull out the cells, the walls would be so delicate that they would soon be broken down. We have to disabuse people's minds in regard to this matter. They don't understand it; it is hard to get them to believe it. They think they are being imposed upon there. They are being imposed upon. Some people declare glucose is superseding honey!

A. K. Ferris—I would say it depends upon the man more than anything else, and, in explanation, I would say, when I started selling honey in our locality, I could get but 7 cents a pound for extracted honey, and it was hard work to sell it at that. But as soon as people found I was putting a good article on the market, and they found out what a good quality of well-ripened honey it was, when I had nearly 2,200 pounds to sell, I sold nearly all of it to one store—nearly 5 barrels to one store—and two weeks later I could have sold the same amount in addition, to that same store, at 10 cents a pound. The reason was, I put out a good article, well ripened. Some bee-keepers put unripened honey upon the market, and it has done untold damage. If a man puts out a good quality of well-ripened honey, he can make more money out of extracted honey than out of comb honey.

Dr. Bohrer—Mr. Ferris, do the people of your part of the country ever question the extracted article?

Mr. Ferris—People said I was feeding extracted honey, glucose and sugar. I made no reply whatever to the charge, but told the people I did feed my bees sugar, a half ton of it, and my honey has sold higher this year than ever before. The people found my honey was good. They did not care whether it was adulterated or not, but I put it out under special seal, and they know, under the laws of Wisconsin, that no honey could be put out under the labels such as I use without its being pure.

Dr. Bohrer—I would understand, then, that what you fed them was the article that you put on the market?

Mr. Ferris—No; according to the statements made, the people thought I did put it on the market. That was not the case. I fed to winter my bees. I feed entirely sugar. I use no honey whatever in wintering my bees. But it had the same effect on the people, as though it had been adulterated. Yet, on the other hand, honey never sold better with me than it did this year. In fact, I could have sold four crops if I had had them, and would have had it all sold by this time.

J. E. Johnson—Speaking from my own experience, if I had my way, it would be extracted honey. I suppose if most bee-keepers had their way, it would be the same thing, but we have to do the way people demand that buy the honey. The people want something nice, and just as long as they want something nice, we have to furnish something nice. I have no doubt but there will always be a good future for both comb and extracted honey.

Wm. M. Whitney—May I ask what the question is?

Mr. York read the question, when Mr. Whitney responded, "I don't know."

Thos. Chantry—I would just like to say I agree with Mr. Johnson. If we want people to eat honey, we must give them what they want. If I had both to sell, I would sell two carloads of extracted honey to one of comb. Nevertheless, those who wanted comb honey would not buy the extracted.

Mr. Whitney—To whom would you sell the extracted honey—to the ordinary consumer, or to some jobber?

Mr. Chantry—I am speaking of retailing to consumers entirely, both comb and extracted honey.

Mr. Fletcher—My experience is that the comb honey has the most brilliant future before it, for two reasons: First, people of intelligence are ascertaining that it cannot be adulterated. They are coming to that conclusion; there has been so much light thrown upon that subject. In the second place, they are satisfied that extracted honey can be adulterated. As to feeding sugar to bees, that would be unprofitable.

Mr. Moore—I have been doing some very heavy thinking here. You see, I have been selling honey to families for about 20 years, and, naturally, have some opinions. The hard job is to convince the public of these things you have been speaking about. My opinion is, there is only one way to do it, and that is by personal acquaintance. People buy of me because they like me. The illustration is, you have got to convince people by your personality, that you are dealing fairly with them, and that is the only way there is any future to this family trade. Of course, when you are selling to the wholesale dealer by carloads, you have another purpose altogether. I do believe that the solution of the honey question for the average bee-keeper in our land is in supplying everybody within 5 or 10 miles of his home. Get a personal acquaintance with them. After a while they will learn that your honey is good, and will demand it.

Dr. Bohrer—What effect would a national pure food law have upon this subject of adulteration of honey? Would not a national pure food law convince the people, if it were rigidly enforced? Would not that go to quite an extent towards convincing the people that there was no such thing as glucose or sugar and wax sold to the public for honey? I think that is one of the things we must have.

Mr. Moore—It seems to me that the only effect these pure food laws have is advertising. They do not convince anybody of anything, but make people more particular to inquire if your honey is pure. I do not believe there is any other effect. The more advertising there is, the more particular people are; but as to their faith in the purity of the article, it is less than before, because there is so much said about it. It increases their faith in the individual, perhaps.

Mr. McCain—I am not an authority on bee-keeping, but I have listened to this discussion, and I have tried to think what I would gather from it if I did not know anything about a bee-hive. Men have admitted here that they feed tons of sugar. What impression is that likely to make on a man's mind? He is inclined to think sugar is fed for perceptible purposes. Oh, yes! I told you so! The conclusion I come to is this: We cannot expect the public to believe that honey in the comb is absolutely an unadulterated article until we can make them understand how the section is made in the hive, and something of the character of the work done by the bees. It is a matter of education. If I tell a man I fed my bees 500 pounds of sugar, he does not know where that sugar goes. He does not know anything about it at all. The impression would be made in his mind that it goes into the hive, and that I take it out in the comb form and sell it.

Mr. Ferris—One point I want to speak about that has caused the most trouble, and that is, the bee-keepers themselves are putting on the market an inferior article. When I made the statement that I feed tons of sugar—which I do—it was to impress the fact that though I do feed tons of sugar, when people get hold of a good batch of honey, it settles the question with them. That is why I wanted to impress upon the bee-keepers to stop putting unripe honey on the market. That is doing more against the bee-keepers' interests than anything else I know. When people get bad honey—extracted too green—they do not forget it, and it takes a good while to get them to be willing to try again. Honey that has no flavor is not well ripened, or has been injured by storing in a cellar, if put upon the market always works an injury to the bee-keeper's interests. If people would work to that end—putting a good article on the market—it would cover the question. While my feeding tons of sugar may have had some effect on the people in one way, in another way the superior article I have put out has more than counterbalanced that, so that the output has more than doubled.

Mr. Whitney—On this matter of feeding bees for winter stores, I have come to the conclusion that I would sooner pay 7 cents a pound for extracted honey than 5 cents a pound for granulated sugar. I have had a little experience that has satisfied me that honey is really cheaper at that price than granulated sugar at 5 cents a pound to feed. And if we would stop feeding sugar entirely, and feed a cheaper honey that we can buy at wholesale at 7 cents a pound, we can get rid of all this talk about feeding bees sugar to go into the sections.

Mr. Moore—How about the dissemination of foul brood?

Mr. Whitney—Buy from a good, honest man that would not sell foul brood.

Member—Where would you find such a man?

Mr. Whitney—I would not need to go out of this room to find honest men.

Mr. Johnson—At Galesburg, Ill., we have been pretty careful to look after the market, so that there is no adulterated honey on the market. Years ago a good deal of it was shipped in, before we had a pure food law. This year honey was scarce, and some merchants thought they would bring in some of it. As a result, two grocers were arrested for selling adulterated honey, and fined $25 each. They would not have gotten off as easily as that if they had not pleaded guilty, and said they did not know it was adulterated honey. As I understand it, there is very little adulterated honey sold in this State. These fellows tried it by getting it from traveling salesmen from another State.

Mr. Hutchinson—I think it is a good deal like asking which has the most promising future, a man or a woman. I think there is no difference in honey; both comb and extracted have a place and will continue to have a place in the market.

Mr. Muth—They both have a place. In the cities, there is a big demand for comb honey. The demand for the consumption of extracted honey is not as large as people have an idea. However, there are other ways in which extracted honey is used. In manufacturing lines the demand is growing larger every year. However, fancy No. 1 comb honey is easily sold. The more fancy honey there is on the market, the greater the consumption. When honey does not grade nice, the bee-keepers soon notice a fall in honey. It decreases the consumption of honey, because people buy it thinking it is comb honey, and they do not want any more comb honey. On the other hand, the consumption of extracted honey is very much on the increase. You will notice in the far West and the South they prefer to produce the extracted honey, and a great many people produce carloads and carloads of it, where they do not produce any comb honey at all. It always finds a market. It is just like wheat on the market, it has a price.

Dr. Bohrer—Is not the lack of uniformity in the weight of the section affecting its sale among the people? For instance, it is called "a pound section," sometimes weighing 12, 14, 15, but seldom over 16 ounces. If I am buying a majority of sections that don't weigh a pound, I want to buy something that does weigh a pound, and more than a pound, to even up.

Mr. Muth—That cuts no figure in the sale of honey at all, because the retailers adjust the prices. They sell by the piece and not by the pound. The retail grocers do not want full sections. They want to make money.

Dr. Bohrer—People sometimes tell me, "I would buy the section honey, but it is called a pound, and it does not weigh a pound. I will not buy it." And they give it a severe "letting alone." That is another reason why I say extracted honey will come to the front when people learn it is absolutely pure.

Pres. York—Personally, I have never heard anybody say these things. I would like an expression on this point. Have you actually heard people object to light-weight sections? I have never heard that complaint.

Mr. McCain—Ever since I have been bee-keeping, I have used the Danzenbaker section, and you know that is light weight. I believe it is really true that there is some objection to it. I have been asked repeatedly, "Does it weigh a pound?" "No," I would say, "it weighs about 14 ounces;" and they hesitate whether they will take it or not.

Mr. Muth—You asked the consumer, didn't you, or the consumer asked you? I believe if you go around and sell to a lot of grocers, they want short-weight sections.

Mr. McCain—I never had that trouble in Chicago. I never was questioned about it in that way here, but at home, in a town of about 5,000, the general impression is that a section of honey should weigh a pound.

Dr. Bohrer—The only reason the grocer wants it that way is because he buys by the pound and sells by the piece.

Mr. Whitney—I had an order last fall for some honey in sections, and the groceryman wrote me to be sure not to have the cases weigh over 22 pounds net.

Pres. York—How many sections to the case?

Mr. Whitney—Twenty-four. I had sent him short sections, and they just exactly suited him.

Pres. York—We will go on to the next question.

Late Feeding of Bees.

"Should your bees be short of stores at this date, what would you feed them?"

Rev. McCain—Full frames of honey.

Mr. Johnson—My impression is that in feeding bees at this time of year, you cannot, because you cannot separate the cluster; it is usually too cold for that if they cluster at all. I have wintered colonies that had hardly any honey in the hives at all, by merely laying sections flat down, right over the frames. The bees will always take honey from above and pass it down, but it seems they will not take it from below and pass it up. In this way, I have wintered bees almost entirely. You may have to look in a little in the winter, and probably give them some more sections.

Member—Do you mean in a cellar?

Mr. Johnson—No; out-of-doors.

Mr. Hutchinson—You can feed candy. Make a sheet of candy that you can lay over the tops of the frames, and cover up with a cloth, and you can feed them out-of-doors very well. Or you can feed syrup in the cellar if you wish. It is more trouble. I was with a bee-keeper last spring at Manistee, Mich., who did not have money to buy sugar with, and he kept feeding them (sugar) syrup all winter long. He took a Mason fruit-jar and had a hole cut in the cover large enough so that the jar would just fit that hole. The bees came through in fine shape, feeding on the syrup all winter long, having very little honey in the combs. I would prefer candy, if I had it to do, but that shows what can be done.

Mr. Ferris—I took 10 2-frame nuclei, put them in cellar in mid-winter, for experiment. I took a 2-quart Mason jar full of syrup, 10 pounds of syrup to 1 pound honey, and fed them. All of the nuclei made me full colonies, averaging 100 pounds of honey each the next year. I did not lose one of the 10. They all came through in good shape. I did that only as an experiment.

Mr. Whitney—As an experiment, I have carried colonies through from February with a 2-pound cake of maple sugar. That is better than anything else I ever saw to feed bees, and I think it is about as handy as anything.

AFTERNOON SESSION.

A discussion of the question regarding a continuance of the committee in the interests of legislation for bee-keepers in Illinois was first taken up.

Importance of Foul Brood Legislation.

Mr. Wilcox—If you do not have a compulsory foul-brood law, you will have no foul-brood law at all. No foul-brood law can be effective for the purpose intended without power to treat or destroy the bees; or, I will say, with the power to enter upon the premises of any bee-keeper for the purpose of inspecting, treating or destroying the bees, we can exterminate foul brood. We know that in Wisconsin. Experience has demonstrated it. It is necessary to have the power; it is not necessary to use it very often. There will be very few instances in the history of any State where it will be necessary to use all the power which the law ought to give you. That is the essential fact in the case? Mr. France has been inspector for many years, and he was thwarted at every corner when he first started out, by want of authority; but when authority was written in the law, and he showed them he had authority to enter upon premises and treat or destroy bees, they surrendered peaceably, and thanked him afterward for what he had done. To-day, in that State, there is no one, to my knowledge, who objects. They are convinced that it is for their interest, and we are glad we have the law just as it is. I do not see how we could improve it.

Mr. Dadant—A little while ago Mr. Wheeler made the statement that in his opinion some bee-keepers do not want a foul-brood law, and that it was in contradiction to my statement. I did not say there were no bee-keepers who do not want a foul-brood law, but my belief is that those who oppose it are in the minority. The fact is, I am sure of it. Mr. J. Q. Smith told us he did not think it was necessary, but when we told him if he happened across a man whose bees had foul brood, and he refused to have it attended to, we ought to have some method by which he could be compelled to have it attended to, he admitted it was so. People who have good judgment will not object to it. When they find a doctor ready to treat their colonies, and do it kindly, they will certainly be willing to have their bees treated. But the man who does not care whether people succeed or not, who cares nothing for his bees or his neighbors' interests, if that man's bees have foul brood, and we have a foul-brood law, the inspector ought to have the right to exercise full authority in the case.

Mr. Russell—There are bee-keepers probably in Illinois as well as in Minnesota who object to a compulsory foul-brood law. I want to tell this convention that those are the very people for whom we need a foul-brood law. We have them who will not allow an inspector to inspect their hives. They sell bees and scatter the disease throughout the State. It is for these people that we need a foul-brood law—for the obstinate ones that we need a compulsory law.

Mr. Wheeler—The convention probably did not understand me exactly in regard to the foul-brood law. The fact is, this Chicago-Northwestern convention has talked for years, and so strongly, that it is an absolute fact that we can cure foul brood. You people take that for granted in all your argument. Now, I will take the ground that you do not cure it; that your methods are not up to the point of curing it. You want to go to work and pass laws obliging us to allow an inspector to come into our apiaries and experiment. We take the ground that you cannot cure the disease. You may cure it apparently for two or three years, but it will come back if you have genuine foul brood. Now, what good does an inspector do? What good does destroying the hive do? It reminds me of a time about 20 years ago when the potato-bug made its appearance. My father went out and hired boys to pick bugs, and many other people did the same. There were a few neighbors, however, who would not pick bugs, for they said the cost would be more than double the value of the potatoes. We wanted to pass a State law compelling people to burn up the bugs, to burn up their potato patches. That is exactly the ground you are taking in this foul-brood law. We can experiment. Go ahead and experiment and learn a cure; find out exactly what will be a cure. I know it can be cured, apparently; for a year or two it will disappear almost entirely—no sign of it; but almost as sure as the sun is to rise, the next season it will make its appearance. Bee-keepers say, "My neighbors have it." That is not the fact. I can prove it. I have experimented along all sort of lines with fumigating, putting combs into an air-tight tank, and fumigating with formaldehyde. I bought two big tanks, put in combs, fumigated the bee-hives as the California man said—everything that had ever been tried and written about I experimented with. And you can for all practical purposes take care of your bees, shake them out of the hives, give them empty combs and empty frames, and for a few years your bees are clean. But invariably it shows itself again. Before it makes its appearance to the human eye, the germ is there in the combs, and a bee-inspector might come along and declare those bees free from all disease, and in a few months there would be a few more cells and the next year it would appear.

Dr. Bohrer—Do I understand Mr. Wheeler to say that for that reason there should not be a foul-brood law passed?

Mr. Wheeler—Yes; and for the reason that a grafter or a man who has a pull would probably get the place of inspector.

Mr. Holtermann—Seriously speaking, I am a little surprised to hear a discussion of this kind here. If it had been in England where they were discussing the advisability of a foul-brood law, one would attribute it to their conservatism. But I am surprised that we can be seriously discussing this question in the United States. We *know* that foul brood can be cured. Mr. Wheeler may not have succeeded in curing it, and we may have some sympathy with him in his trouble, but there are too many of us who can say we know foul brood can be cured. And even if it could not be cured, it would need an inspector to see where the disease was, and stamp it out. We are certainly not prepared to admit that it cannot be cured. And I think Mr. Wheeler hardly means to make the accusation that every foul-brood inspector is a grafter or one who has a "pull." I think that is a little too strong. There are good men among the inspectors. If I may be allowed to say so, I would be much in sympathy with seeing that you get a foul-brood law passed.

Dr. Bohrer—I do not know that a law will stamp out foul brood, but as was just remarked, if we cannot afford a permanent cure, if we can only check it, we should have the law. I am satisfied that foul brood can be cured. I never saw but one case in my life, and I cured it. I will tell you how I did it, and the experience I had with it, and for that reason, if no other, I would recommend a law upon that subject. A neighbor of mine had only one colony of bees, and he told me there was something wrong with it. He asked me if I would stop and inspect his hive. I did so, and the most terrible stench that ever came to my nostrils came out of that hive! I said, "My friend, I cannot imagine anything that would be fouler than this, and we will call it foul brood, anyway." There were very few bees hatching. I said, "If you have some comb foundation, and a new, clean hive, we will fit it into the frames, shake these bees all off and drive them into it, then take this bee-hive, combs, honey, frames and everything and conceal them somewhere until after night, and then put it all somewhere and burn it." I had 20 or 30 colonies of bees at home, and I slipped into the house as quickly as possible. I took off every particle of clothing, and told my wife to go and boil them. Everything I had about me was thoroughly cooked. I tell you, no foul brood will ever start up where you adopt such measures as that. You want your foul-brood law to give your inspector full authority. Do not tolerate or accept any half-way legislation upon that subject. We have a law in my State (Kansas), but I do not exactly like it. The law provides for a county inspector, but it does not pay him sufficiently to justify a man in leaving his home—only $2.00 a day. You cannot get a man to do very much work on that account. In our county they want me to take hold of it and inspect the bees. I said, "I will tell you how to cure it, and when the legislature meets again, let them understand it is not graft at all. Frame your law so the fact can be established that the disease exists and is doing mischief. Then clothe your inspector with authority to go and effect a cure." When you come to pass a State law, be careful how you shape it. I am not sure but a law that will provide for a county inspector will cost the people the least money. It is not very expensive for the County Commissioners to appoint an inspector of that kind and pay a competent man. But to say we don't want any law because somebody has made a failure—that won't do! We might just as well say we don't want laws upon the statute books prohibiting murder or robbery because these things go on, and the law does not stop them. But if you can check the disease, it will pay to have a law for that purpose, if no other.

Mr. Kimmey—I would like, first, to know if Mr. Wheeler was giving us his experience with foul brood?

Mr. Wheeler—Ask any question you like. When you get through talking, I will talk.

Mr. Kimmey—That is what I wanted to know—whether you were speaking from your own experience.

Mr. Wheeler—In regard to the insinuation I made about grafters and all that, we know what Mr. France is. We all love him, I may say. He is a man, every inch of him. What Wisconsin has had in Mr. France is no sign of what Illinois may have. We must look ahead to that. Not only that, but to people who have thousands of dollars at stake in the bee-business, it is a great deal more of a vital question than to a man who has one or two hives, and I claim that the men who are doing a honey-producing business on a large scale are in a great deal more danger of the disease continuing and staying than if he has only one or two hives to put into a furnace and burn up. He is only a few dollars out. Of course the bee-hive manufacturers want it. But if we can get along and keep our hives, we are going to do it. We can scour them, burn them out, and all that, and I have no doubt but The A. I. Root Co. cured the disease when they had it. They could burn up their hives, foundation and all, and get new supplies out at their factory without much cost to them. We cannot do that. You cannot do that. The point is, there is so much stuff around. And these gentlemen are satisfied to burn up the hives. I saw that done once, and the next day after the hives were burned the bees swarmed over that pile, licked up the honey they found and carried it home.

Dr. Bohrer—That honey was not burned.

Mr. Wilcox—You cannot burn up honey in that way. I have seen the disease carried back to the hives in that way.

Mr. Wheeler—I consider myself just as careful as any man can be. I have experimented just as carefully as any man in the United States can, and I believe it is absolutely impossible, unless bees are destroyed and the hives burned up, to eradicate that disease if you get the genuine thing. It has no terror to me. I do not believe any man needs to be afraid of it. I do not believe there is anything in it to be so much afraid of. It is simply a question of taking care of your bees. Don't allow them to get any diseased honey. But so far as absolutely curing it, I do not think it can be done.

Mr. McEvoy—I cannot quite agree with Mr. Wheeler. I will not stake my life that I can cure it every time, but when you are going on the theory that it cannot be cured, you are making a mistake.

Mr. Dadant—I would like to give you one instance where it would have been good to have had a foul-brood law in Illinois. A person died near East St. Louis who owned some bees that had foul brood. The administrator was told the bees had foul brood, and he hastened to sell them as quickly as possible to get rid of them. If we had had a compulsory law, it would have been a criminal matter to have so disposed of those bees.

Mr. Kimmey—I asked Mr. Wheeler the question in good faith, whether he was talking from his own experience. I expected to ask him if he believed the disease to be contagious. I am talking about something I know nothing about. I never have had foul brood in my apiary. I am an amateur bee-keeper. It seems to me if you have had foul brood and stamped it out, and it is contagious, it had come from some place else. That is what I was trying to get at. He might have gotten it from his neighbors' bees.

Mr. Wilcox—There is just one feature of this case that has not been touched upon yet that is important. The fact is, you want to create an office. The inspector must be a State officer, and you cannot have it unless you prepare for it, and pass a law authorizing it. You must have a fixed appropriation for this purpose and not depend upon the Legislature to make an annual or biennial appropriation for this purpose. It must be an appropriation that will come, year after year, and to get that you must proceed as we have done and make it a State office. Make it a fixed appropriation after the manner of Wisconsin. It is necessary to have such an officer. He may be appointed by the Governor, or by some State board after some civil service examination, perhaps. It is not a matter for us to discuss as to the best method of having him appointed. In Wisconsin we are satisfied to have him appointed by the Governor, upon recommendation of the bee-keepers.

Mr. McCain—It seems to me we ought to bear in mind that we are not legislating against ourselves. The bee-keepers of this Association and of the National are, in the majority, intelligent men, who can cure cases of foul brood if they have it. I am no expert, but I have cured two cases—not in my own yard, but in my neighbor's yard. We are not legislating aginst ourselves. We ought to go in heartily and support such a resolution as this in order that those who do not care may feel the force of the law.

Mr. Kluck—I am in favor of a foul-brood law where we can force our neighbor, who does not care whether his bees have foul brood or not, to have the disease treated, and a compulsory law is the only one that will do any good in Illinois. The man who has 6, 8, 10 or 15 colonies, and his bees are only a side issue, lets them stand. If they live, they live; if they die, they die. The neighbor's bees carry the disease home, and that is where you get foul brood. Then we want a law so that when we know a man has foul brood in his apiary we can have an inspector go and visit the yard and stamp it out. I do not believe it is necessary to destroy the hives, or anything of that kind. I believe my friend here, Mr. McEvoy, has destroyed many cases where he never destroyed a hive.

Mr. McEvoy—I never destroyed a hive in my life.

Mr. Kannenberg—Mr. France, in Wisconsin, has treated foul brood many times without destroying the hive. I shall hand in my name here to help along a foul-brood law down at Springfield. When we are working against a foul-brood law, we are working against our own interests.

Mr. McEvoy—A good many are acting on the proposition that we are trying to do something that we would have to force, which is not the case.

Mr. Holtermann—If you have a competent man you will have very little trouble. There may be a little opposition to him at first, but if he will take it right, it will end right, as a rule. I think you had better get a law passed; it will be to the interest of every man in the business, and the men who oppose it will be all right if you take them right. Whatever you do in your law, make the inspector the sole judge. No appeal! If an appeal can be made from the decision of the inspector, while that is going on the mischief will be done. Make the inspector the sole judge, and see that he does his duty.

Mr. Kannenberg—I should think a man who has a lot of bees, and makes his living out of them, would be only too glad if there is a compulsory law to keep out foul brood. Those who have only a few bees would not care whether they had it or not, but the man who makes his living out of bees should care whether his neighbors bring in foul brood.

Mr. Wheeler—That all comes along the line of absolute cure. When you convince the fellows in Illinois that you can cure that disease, then is the time to talk, and not until then. And another thing, we want absolutely straight, honorable men for our inspectors if we have to have them. We want men that we can trust. Our fortunes are at stake; our whole interests, our life's work, are at stake. We want men who will not go in and destroy our property for some notion or whim. We want property preserved. That is the law first taught in the Declaration of Independence—preservation of life, liberty and property. And I hope we may sometime get a law that will work along that same line. When that day comes, I am in for it. But until you can prove that the disease is curable, I will not consent to it. Not only that, but this convention does not represent the bee-keepers of Illinois. Don't for one moment forget that. Don't forget that Illinois bee-keepers represent people all over the State, and about-nine-tenths of them never darken these doors—never come inside of this convention hall. They have their interests as well as we do, and I have heard nothing from them.

Mr. Baxter—I would like to ask Mr. Wheeler one question. Have you ever had foul brood in your own apiary?

Mr. Wheeler—I have not said anything at all of that kind. I have experimented in all sorts of ways, but I do not know that I am to be picked out individually here to answer any questions. I am not afraid to have anybody ask me outside. We do not know what the future has in store for any of us. You all talk about the question just as I do. I have had experience with it—a great deal of experience. I have tried these experiments, and I have followed directions, and I believe the time will come when you will all, every one of you, say that Wheeler is right. I expect I may not live to see it.

Mr. Ferris—There is a point in Mr. Wheeler's argument I see some light in. A man who is a would-be inspector, who went in and inspected some hives and pronounced them foul-broody, and afterward another inspector went in and told them it was pickled brood, there would be trouble. Unless we have a thoroughly competent man, a man's whole apiary might be destroyed under a compulsory law. And that is a point we must look after, so that a man does not go forth and destroy in the wrong place. We should have not only a man who can enforce the law, but have the right kind of a man when he is going to enforce it.

Mr. Whitney—I don't understand why we should appoint a man as inspector until after we get the law!

A motion was made and seconded that the Committee on Legislation be instructed to co-operate with the State Bee-Keepers' Association to secure a foul-brood law. Motion carried almost unanimously.

Baby Nuclei in Queen-Rearing.

"What is the testimony in regard to the value of baby nuclei in queen-rearing?"

Ernest R. Root—There is no question but what baby nuclei will fertilize queens, small or large. The trouble is to get the bees to stay in the little boxes, so as not to keep renewing them all the time. We have been exprimenting with the small boxes and find that it works, and fertilizes the queens, depending upon how many bees we get into the boxes. Instead of having very thick partitions, we have very thin ones. The frames are the same as in an ordinary hive. The advantage in using baby nuclei is to keep from using smoke. We never use a smoker in handling baby nuclei. The fact about the matter is that the first brood will be reared right against the thin partition on both sides, showing that the additional warmth of the two clusters means a great deal. Instead of having six to the Langstroth frame, we now have three to that size frame, and we can run the baby nuclei in pairs clear up into the month of November.

Dr. Bohrer—How many frames do you have?

Mr. Root—Four; 2 to each division.

Dr. Miller—Mr. Root says these are renewed about once a month, but I think Mr. Laws and some other dyed-in-the-wool baby-nuclei men say they have a fresh lot of bees for each queen.

Mr. Root—That plan is all right, but it involves too much work for us down at Medina. As I understand it, he forms a baby nucleus every time he wants to carry the bees to the out yard. We have found it less work to use the baby nuclei to run through the entire season, like an ordinary colony.

Mr. Hutchinson—There is one point on which Mr. Ferris lays considerable emphasis, and that is the distance apart of the frames—that is, placing them wide apart. He says if there is a large space between them, more bees can crowd in there than can rear bees successfully.

Dr. Miller—May I emphasize the point that Mr. Hutchinson made right here as to the room that is there. A good many years ago, when I first commenced working with bees, I devised a nucleus hive, using a common 10-frame Langstroth hive, taking 6 nuclei, one in each frame, and it worked very well. Years after I tried to repeat the same thing, and I found what a great many authorities said, that the nuclei would be deserted; that the bees would desert them. When I made my second attempt at it, I was wiser then—knew more about bees, and rather smiled at my former ignorance in using 6 of them in that 10-frame hive, which gave a space of nearly 2 inches to each. I gave them, this time, only a reasonable amount, only about ½ inch at the side of each one, and the bees flew out and would not stay in there! I concluded my first crude attempt was the better one. Another point: I do not think, after trying all these years and experimenting with baby nuclei, that this thing is quite as modern as some of us are likely to think. About 40 years ago I visited Adam Grimm, and I think about all of his hives were just about the size of the present baby-nucleus hives. And I remember his pulling them apart without any smoke. The things would fly at him, and he would say, "We must wait a little and then go at them again." That is about the size of Adam Grimm's nucleus hive [referring to a model].

Mr. Dadant—Mr. Gray, of Ohio, made baby nuclei. We reared our queens from the larvae instead of doing as you do to-day, but we did have some very good nuclei, and the question was to keep the combs well separated, so as to have a large amount of bees between. When the honey would come, they would spread out.

Dr. Bohrer—Mr. Langstroth used 4 frames. I have been in his apiary a good many times. I never reinforce them. When they have filled every available space I remove the queen.

Mr. Stanley described at some length his method and baby-nucleus hive. His hive is a little larger than the ordinary baby-nucleus hives. It has 3 frames, 4x5 inches. He started with 6 combs in the spring, and then divided them later on.

Mr. Holtermann—Have you introduced a large number of virgin queens?

Mr. Stanley—Probably 1,200 to 1,500 the past season.

Mr. McCain—I wish I had the experience and ability to write a book entitled, "Forty Years Among the Bees." I do not believe this is right; I believe the system should be condemned. I think it is all wrong. I think it is unnatural, abnormal, forced from beginning to end. My experience is limited, but that is the way it looks to me.

Mr. Dadant—I do not believe we should condemn a system because it is forced. There are a great many things done by domesticating. We have changed the nature of a good many animals. I think the argument that the thing is not right because it is forced has no weight. I can see no reason why the queen should suffer, and I can see a saving in expense to the bee-keeper. I believe the boxes should be made so that none of the bees need be lost.

Mr. Root—Perhaps I can harmonize the differences of opinion. I do believe they are all right so far as mating the queens is concerned. We were moving on wrong lines. We had too few bees. It was said 100 would be enough. I believe it was wrong there. After we had prepared the article, in order to make the thing work, we went to 400. When we had about 400 it worked. Putting the frames further apart commends itself as being very good. When you get a ball of bees, it will be just as warm, whether large or small, up to a certain extent. The Pratt baby nucleus is, perhaps, no larger than those two boxes there. We can make it work by having one comb and putting more bees in it. I think if we should try it over again, we could do it. It is my belief that with a tin box, the results would be all right. I believe cells are liable to be chilled out in a box where a pasteboard cover is used. We make it just as warm as we can. The baby nucleus Pratt recommended had 8 frames to the Langstroth frame. That makes it too small. The frames we are now using give better results with 3 to the Langstroth frame. The virgin queens themselves should be reared in strong colonies, then when they have arrived at the right age we introduce them. We have to modify some of the things we thought we knew last year.

The new President of the National Bee-Keepers' Association, Mr. C. P. Dadant, was introduced to the convention, and responded.

Mr. Dadant—Mr. President, I will have to make an extempore speech, but I have not prepared it! I simply wish to thank the bee-keepers for my election. I am afraid I will turn out to be a very poor presiding officer, but I will do the best I can. I am not a speaker, therefore, you will not expect a speech from me. I leave speaking to better men than myself.

Mr. George E. Hilton, the newly elected Vice-President of the National Association, was called for, but had left the hall.

Mr. W. Z. Hutchinson, Secretary of the National, was introduced to the convention and responded:

Mr. President, there seems to be a lot of poor talkers. I can only say as my brother has said, I thank the bee-keepers for the honor.

The General Manager, Mr. N. E. France, was also introduced.

Mr. France—As Mr. Dadant has said, I thank the bee-keepers for the honor. I have tried to do what is right for them, and hope to continue so doing. There are some things connected with the work that are pleasant. Again, there are some parts of it that I wish somebody else had. But put it all together, we are progressing, and we are accomplishing much of good. I hope you will all feel it is your part to help. One officer cannot do it alone.

Pres. York—We have with us Dr. Eaton, analyst of the Illinois State Food Commission.

Dr. Eaton—As I expect to read a paper before the National Association, I will not have anything to say at the present time, except to congratulate the bee-keepers on the market for honey as regards adulteration; especially as regards extracted honey, because we have hardly found a sample of adulterated honey in Illinois this year.

Pres. York—I have not succeeded in getting anyone to talk very much, and so will call on Dr. Miller.

Dr. Miller—I am not an officer, and I can talk.

Pres. York—You are still a Director of the National, and will be until January 1st.

Dr. Miller—Well, I can talk until January 1st, then.

The convention then adjourned to meet at the call of the Executive Committee.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Early Spring Work in the Apiary

It is not too early in the South to begin our spring work in the apiary in February if sufficiently warm weather obtains. Our seasons differ very much in different years, however, sometimes being a whole month earlier, and again a whole month later, than in ordinary years. With an early season brood-rearing begins well in January, and swarming may be expected in the month of February. In a late season these periods may come fully two months later, but ordinarily February is our opening month. Brood-rearing begins, and new pollen and some honey from the early willows, water-elm, and our very early spring flowers stimulate the bees to activity, in which they soon build up to rousing colonies.

Our First Work.

It is at this time that our first inspection of the colonies for the year should be made. We should see that all colonies are well supplied with stores. Bees short of honey in early spring will not breed up and become strong in numbers as will those well supplied with honey. Such colonies will "hang back" throughout the entire season; having had a "bad start," it is impossible for them to keep up the race.

It is surprising, also, how fast the bees use up their stores when brood-rearing has begun in earnest, and all colonies not well supplied with sufficient stores are likely to run out, and either starve outright or become so reduced in numbers that they will be worthless as a colony the rest of the season.

Record the Conditions.

An examination of each colony should be made and the exact condition of each noted. To do this it is not necessary to spend much time on each colony, but the following procedure is practised:

Selecting the warmer part of the day, the hive is opened and just enough smoke used to keep the bees from flying at the operator, as they will be found to be quite cross yet. Our object should be to disturb the colony as little as possible, and yet gain our purpose. The combs are now spread apart at the center of the main cluster, and the center comb from it is removed to note the egg-laying and condition of the brood-nest. If eggs and brood are present, and in such condition as, in your judgment, it should be, and a glance and rough estimate shows at a guess about 15 to 20 pounds of honey in the hive, then the colony is marked "O. K.," whether the queen is seen or not. The eggs and brood, and the condition of the brood-nest, are sure signs of the presence, and shows the prolificness, of the queen at this time of the year. If no eggs or brood are found on the first comb, it might be well to remove a second one. If no brood or eggs are found, and the colony has sufficient stores, it is marked "Doubtful," which is indicated by a simple cross or X on the hive and in the record book, and the colony is to be visited again two weeks later.

All colonies short of stores are marked in some way on top of the hive, simply by placing some object, stone, or piece of wood upon the cover so it can be easily seen from any part of the yard. The strong colonies with a surplus amount of stores are marked in the same way, only that the objects are placed in a different position from the "short" colonies, to indicate which is which.

Providing Stores for Weak Colonies.

After the whole apiary has been examined, and all the colonies short of stores, and those with a surplus, have been marked, the next step will be to equalize the stores of these colonies. A comb or two of honey is taken from the "rich" colonies and given to the "poor," empty combs from the poor colonies replacing those taken from the strong ones. This is undoubtedly the best, easiest, and cheapest way to feed bees to supply necessary stores that I have tried, *but* there is some danger connected with the practise of interchanging combs, that has played such sad havoc and destruction of whole apiaries that I would not advise it unless the bee-keeper is absolutely sure that there is no danger.

Reference is made to the spreading of bee-diseases. Unless it is certain that no trouble might result, it would be better to resort to feeding the weaker and needy colonies with good, clean sugar syrup, and supply them with stores in this way.

The weather conditions will have to be considered, and also the number of colonies needing stores, as to whether outside feeding should be practised, or whether the syrup should be given in feeders inside of the hives. The latter would be the better during cool weather, and if only a part of the yard needs to be fed. If a larger number of colonies in the apiary need feeding, and the weather is warm enough for the bees to store it rapidly, outside feeding could be done with less labor.

The syrup stored by the already "rich"—if these are not too many—would only stimulate them the more, and make stronger, booming colonies of them for the harvest later on. The syrup stored and used by them would not be considered as a loss. Of course, if all need feeding it is an easy matter to decide which would be the most practical for the apiarist to follow. It is best to feed enough to last them for from 10 days to 2 weeks at a feeding, depending largely, of course, from the time natural sources will step in.

A Visit Two Weeks Later.

After this examination and equalizing, or feeding of stores, etc., it is best, and not necessary, to disturb the bees any more until settled warm weather, except a visit about 2 weeks or so after the first to look after the "Doubtful" colonies, or those marked with an X at the first examination.

Arriving at such a colony we proceed with the examination just as previously, using smoke only sufficient to keep the bees back, taking out the center comb to examine for brood, and marking the colony "O. K.," if it is so. If queenless, the simplest and quickest way to get rid of them is to place them on top of another colony, or to place a weak colony, with a queen, from some other stand, on top of the queenless one, and leave them to unite and cluster in the chamber containing the brood-nest. This I have found to be the most satisfactory method for disposing of the queenless colonies at this time of the year. The season is quite early in which to have queens to give to the queenless colonies—at least for the average bee-keeper—and it is also too early for such colonies, or any others, to rear queens that would be worth keeping in the apiary.

I believe in rearing queens—*good queens*—in strong, rousing colonies, and under none other than favorable conditions for such work. If left to rear a queen from brood given them they are slow to build up to *profitable* colonies for that season, unless a very favorable season prevails from the start, and combs of hatching brood are given them during the beginning to strengthen and encourage the colony. By uniting 2, however, shorter work is made of them, and the combined forces result in a strong colony in a short length of time, and will store its share of surplus, while the 2, separately, would perhaps only build up strong enough, and store sufficient, to go into winter quarters next fall.

Spreading Brood and Other "Fussing."

There are many minor manipulations that might be, and are, practised by the apiarist in the apiary during February. Among these are the spreading of brood, stimulative feeding, and trying to help the bees in other ways in early spring; but I have come to the conclusion—and that after having tried all manner of such things—that there is more to be lost by them than gained, especially in the hands of the inexperienced or the careless. With the large bee-keeper, who numbers his apiaries by the dozen, and who keeps bees for a "bread and butter" purpose, all these "tinkerings" are considered as so much unnecessary "fussing;" besides, he has not the time to practise them. For this reason no further mention of these methods will be made at this time, but, instead, it should be our purpose so to manage our apiaries throughout the year as to consume the minimum amount of labor and expense, and yet yield the largest possible returns for our pocket-book.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Shipping Bees a Long Distance—Advertising Honey

1. How would you advise packing a colony of bees which is to be shipped by freight to New York from Texas?

2. Do you think they will arrive safely, if well packed?

3. When do you think is the best time?

4. A publisher in New York offers me advertising space in exchange for a good colony of bees. Do you think this might prove profitable, or do you think that it does not pay to advertise honey in a journal of science? Texas.

Answers.—1. There must be good ventilation, and everything as firm as possible. You can make sure of the first by having a cover entirely of wire-cloth. Under this it may be well to have a sponge filled with water. If the frames are loose-hanging they must be made secure, either by nails driven down through the ends of the top-bars or by spacing with sticks. Put on written instructions for the hive to ride so the frames shall be parallel with the rails, a hand or an arrow to point toward the engine.

2. They should, although some roads will not accept less than a carload of bees to go by freight.

3. If sent when too cold there is danger of the combs breaking because brittle, if sent when too warm the bees will suffer from the heat. Probably it will not be too cold to send any time now.

4. Advertising in such a journal ought to help, but whether you would get the benefit thereof directly yourself depends altogether upon how it is managed.

◆

Facing Hives Toward Pasture—Alsike Clover—Foul Brood—Wintering—Shade for Bees

1. Are linn and basswood the same?

2. Should bee-hives be set so they would face the bee-pasture, or, if my bees face the east and the bee-pasture is west of them, will they go to it if there is pasture in the east, too?

3. Is the queen-bee given as a premium by the American Bee Journal from a good, reliable breeder? and is safe delivery guaranteed?

4. Did you ever raise any alsike clover? and did it do any good?

5. Where could I get some seed?

6. I had one colony of bees that had a strong smell all summer. It didn't smell like anything dead. They were strong in bees and had lots of brood. There was none of the capped brood dead that I could see. The bottom-board outside in front would have dead larvæ dragged out on it in the morning. I took the brood out and it didn't have any smell to it; it was the honey that smelled so strong. I was very careful not to let any other bees get to it. At last I transferred it after the Baldridge plan (page 469-1905). I called it pickled brood. Now, what do you think it was?

7. Does the United States have any free reading matter on foul brood? If they do, I would like to know where to get it.

8. Is honey from a foul-broody colony fit for table use? I never heard of any foul brood in this neighborhood, and there are lots of bees here.

9. This is the way I put my bees away for winter: I made a shed 20 inches high at the back, and 3 feet high in front, with sloping roof, and facing the east. I put the hives in about 6 inches apart, packed hay behind them and between, and put hay on top. What do you think of it?

10. January 20 my bees had a good flight, from early in the morning until after sundown. They don't come out every little warm spell like bees that are left on the summer stand. How long can bees stay in and do well without having a flight? Could they stay in until March, or longer?

11. How would it do to make an arbor over my bees so

I could walk under it, and cover it with morning-glory vines and other flowering vines to shade it in the summer?

ILLINOIS.

ANSWERS.—1. Lynn, linn, lin, linden, basswood, and Tilia Americana, are all one and the same.

2. The direction the hives face will not make a particle of difference as to the bees finding the pasturage. If a hive faces east, the bees will find the pasture both east and west.

3. I have nothing to do with the premiums given, and do not know what the queens are, any more than to say I believe so thoroughly in the Editor that I don't believe he would knowingly send out anything he didn't think was all right. It is not usual to guarantee safe delivery unless it is specially mentioned, but the Editor is of age and can speak for himself. [The queens we send out are as good as can be reared, and safe delivery and satisfaction are guaranteed.—EDITOR.]

4. I sowed alsike once or twice with no great success. But I have also failed with red clover sometimes, and upon another trial alsike might do better.

5. Toward spring you will usually find it advertised in the bee-papers.

6. As nearly as I can understand, the only thing wrong was that the honey smelled bad and some brood was thrown out. There may have been no disease at all. It is possible that the brood thrown out was drone-brood.

7. I think not.

8. If nice and clean in appearance it is all right. Foul-broody honey that is death to bees is entirely wholesome for human beings.

9. In your latitude (about 39 degrees) bees prepared in that way ought to winter nicely.

10. The length of confinement that bees can endure without suffering varies with conditions. There is a point of temperature, somewhere about 45 degrees, at which bees are almost entirely dormant, and if kept constantly at that temperature they can stand 5 or 6 months' confinement. In your case, however, there is hardly need of such a question, for although well packed there will no doubt be more than one day between now and March when they will fly. Their not flying now when other bees fly is partly owing to the fact that they do not feel the need of a flight.

11. The morning-glories will give immediate results; but it might be well to plant something at the same time for future permanence, as Virginian-creeper (Ampelopsis quinquefolia), grape, etc. At the same time it must be mentioned that some think the bees do better without shade in some localities. Yet the shade is a nice thing for the operator.

◆

Black or White for Painting Hives

What do you think of the claim presented by Allen Latham recently, that black is a better color than white to paint bee-hives?

SUBSCRIBER.

ANSWER.—Mr. Latham gives some very interesting arguments, and they are not easily pooh-poohed out of the way. He starts out with the law that good absorbers are good radiators—which can not be disputed—and argues from that, that while black is wamer than white in the sun, because of its radiating power, it is cooler than white in the shade. From that it would appear that black hives are cooler in winter than white, because there is more dark than sunshine during the 24 hours of each winter day. But he brings in another important item: When the sun shines brightly on a winter day when bees can fly, it is of the utmost importance that the hive should have all the benefit of that heat, this importance being so great that the benefit of the black on these few occasions overbalances all the harm it does during the rest of the winter. His conclusion is that hives should be black, in the shade during summer and in the sun in winter, this to be obtained by the use os deciduous trees. If one can live up to the conditions, it if pretty hard to get away from his arguments.

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The "Continuous" Hatcher is the name of an incubator which its makers claim will hatch chicks continuously every day. This idea they have very cleverly illustrated on the front cover of their catalog, which shows a bucketful of the brighest, liveliest chicks you ever saw. They look as if they were glad they were alive, and are singing the praise of their wooden mother. Besides listing the various machines and poultry appliances made by The Hacker Incubator & Mfg. Co., St. Louis. Mo., the catalog contains a very complete and exhaustive article on the subject of artificial incubation, showing how the principles which Nature employs to hatch fowls in a natural way must be observed if success is to crown your attempts to hatch them artifically. Every incubator owner and every poultryman and beginner in the chicken business is vitally interested in this most important subject, and should read the article published only in this catalog, which will be sent free to all those interested who will write for it. Mention the American Bee Journal when writing.

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Reports and Experiences

Fine Winter for Bees

We are having a fine winter for bees that have plenty of stores, as 2 degrees above zero is the coldest this winter. E. G. GUTHREY.
Malta Bend, Mo., Feb. 11.

A Discouraging Season

Last spring was apparently a most promising one for a bee-keeper. I don't remember any other spring when my bees were in a more promising condition. White and alsike clovers were most abundant and promising on all sides. But a cold, wet spell at the time of the height of the honey-flow changed completely the outlook. Fifty-seven colonies, spring count, and about 2000 pounds of honey is the story—1200 pounds of comb honey and 800 pounds of extracted. I don't remember the bees, on the whole, swarming so hastily. They commenced early for this section—May 22. Some of the first colonies insisted on swarming again as soon as they could rear brood and queen-cells in hives of mere foundation. H. H. MOE.
Woodford, Wis., Feb. 8.

Winter Well in the Cellar

My bees are very quiet in the cellar. I do not meddle with them after putting them in. The hive-bottoms are all tight, with only a $\frac{3}{8}$-inch opening in front, so that mice can not enter the hives, and there is practically no ventilation. My losses have been very light in the last 20 years that I have been keeping bees. I had more honey than any one else in this county last year. We had no fall honey. I put 5 colonies in the cellar, and will report again after I get them out and examine them to see how they are.

In publishing my account last season, an error was made in stating that I was getting 24 cents for honey, instead of having had 2400 pounds for the season. I am now getting 11 cents at the store, and $12\frac{1}{2}$ cents when I peddle it. My honey is of very fine quality.
Algona, Iowa, Feb. 12. WM. CLEARY.

Poorest Year for Honey

Last year was the poorest for honey in my recollection. A great many bees starved during the fall of the year, and more will perish before spring. I started in the spring with 35 colonies, and did not get a pound of honey. A. T. MULL.
Cleveland Mills, N. C., Feb. 1.

Hive-Covers and Bottom-Boards

I have 75 hive-covers for 75 12-frame Langstroth hives that are made thus:

I always use common matched flooring white pine), I saw off the boards the right length, turn them upside down and nail a cleat on each end. Then turn the board right side up and tack on some newspapers or building-paper. Then nail a sheet of galvanized iron along the edge with about 5 sixpenny nails on each side. The ends of the metal sheet should project over each end about $1\frac{1}{2}$ inches. It is now complete except the painting of the end cleats. The paper tacked on the top of the board before the metal is put on is to keep the hive cool in summer.

I began making this style of top-board 14 years ago, and for my purpose it is nearly perfect. These top-boards are somewhat expensive, but I expect them to outlast almost any other style of hive-cover that I know of.

My bottom-boards are made thus: I take 2 pieces of 2x4 and cut them 2 inches longer than the hive, so they will form a projection in front of the hive of 2 inches. I take flooring and cut it to be nailed crosswise of the hive-stand, which allows no harm from swelling of the boards. The boards for the bottom are all common $\frac{7}{8}$ stuff, except that the front end has a $\frac{1}{2}$-inch board nailed on, that projects $\frac{1}{2}$ an inch. I find this style of bottom-board is ever so much better to keep snow and ice from shutting off the ventilation of the hive.

I hope this style of bottom-board will be tried, and those that use it report to the American Bee Journal. C. A. BUNCH.
St. Joseph Co., Ind.

Wax from Bur-Comb for Testing

For once Mr. Hasty was too hasty and jumped at conclusions. On page 143 he criticises the report of wax-test on page 10. Mr. Hasty says:

"Look a little out how you use bur-comb pinched up into a lump as a standard," etc. If he will take the trouble to read it once again, he will find I said, "A piece of wax that I secured *from* some bur-comb."

The wax was extracted from the comb as carefully—in fact, more so—than any regular extracting.

I think Mr. Hasty's "specs" are too young for him. He would better get a pair more suited to his age. C. R. RUSSELL.
Worcester, Mass.

Fears Bees Will Starve

I started last spring with 50 colonies, increased to 66, and got only 700 pounds of comb honey. About July 15 the honey-flow ceased. On Sept. 1 I examined the apiary to see how the bees were fixed for winter, and found about 20 light colonies. To these I fed about 150 pounds of sugar, and thought I had them in good condition, but, to my surprise, I found them very light by Dec. 1. I fear I will have a heavy loss from starvation. I moved away from the place where they are in winter quarters, consequently can not feed them in winter. I make my own frames, and use a cover that I think is all right. It is simply a board-cover covered wiih asphalt roofing. I have used these covers for several years; they never leak, and with reasonable care will last a long time.

I expect to move to northern Minnesota in March, and intend to try to take my bees in an emigrant car. How well I succeed I will write later. DR. W. H. ELLIS.
Lohrville, Iowa, Feb. 8.

Antique and Unique Methods of Catching Swarms

The late Rev. Samuel W. Cope, of Chillicothe, Mo., in his book, "The Story of a Happy Life," has this to say of his grandfather, Josiah Hutton:

"He was a thrifty farmer, and was noted for rearing and caring for bees. It was his delight to work with them and to keep them, winter and summer, under the most favorable conditions. As a convenience in swarming-time, he had a small knot cut from a tree and attached to the end of a pole. When the bees swarmed, he would tie branches from peach-trees about, and holding this up among them they would settle or cluster around the knot. By this novel process the bees were quickly and easily hived. In my imagination I still see the great jars of honey sitting around the pantry, which, with other good things, grandmother used to lavish upon me at the table and between meals. The memory of it will continue with me through life."

There are no dates given as to when his grandfather practised this method of catching swarms, but since the Rev. Cope was born in the year 1826, it must have been in the first half of the last century. Other lessons to be learned from this brief statement are: First, he "*delighted* to work with them." Second, he endeavored to keep them "under the *most favorable conditions*, winter and summer." Third, the evident indications of thoughtfulness and inventive genius in Grandfather Hutton—ever looking for better ways of doing things—hence, "the great jars of honey" for the delectation of little Sammy, and all good boys with good grandmothers. Hence, "The Story of a Happy Life," which is well worth reading by any one desiring a moral, mental, or spiritual uplift in life.
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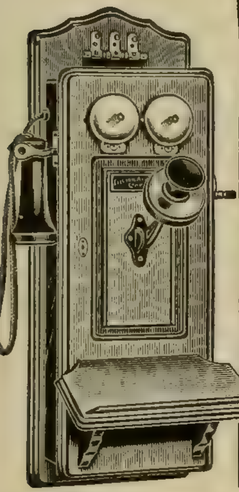

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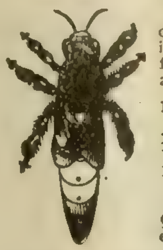

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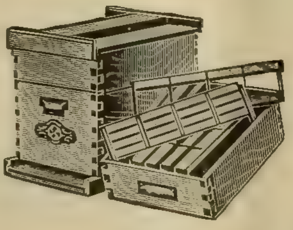

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Honey and Beeswax

Chicago, Feb. 7.—The demand is about normal with sufficient stocks to meet all requirements. The best grades of white comb honey bring 14@15c, with off grades at 1@3c less, depending upon color, condition and shape. Extracted, aside from white clover and basswood, (choice grades of which are practically unobtainable), is in ample supply at 6½@7½c; amber, 6½@7c, with off grades still lower. Beeswax, 30c.
R. A. Burnett & Co.

Toledo, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c: amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
Griggs Bros.

Indianapolis, Feb. 2.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, Feb. 19.—The condition of the honey market is much more firm than it was a year ago at this time, with much less on the market. Usually at this time of the year bee-men wake up to realize that they may carry their honey over and send it to the market to be sold at any price rather than hold it. At the present time the market is fairly well cleaned up. We quote: Fancy white comb honey, 16@17c; amber, 13@14c; extracted white clover, 7@8c; amber, 6@7c. Beeswax firm.

We are producers of honey and do not handle on commission.
Wm. A. Selser.

New York, Feb. 19.—The demand is fairly good for better grades of white, and while the near by crop is fairly well cleaned up, new arrivals are now coming in from Cuba, besides several cars have been shipped on from California. We quote fancy white at 15c; No. 1, 13@14c; No. 2, 12c; amber, 11c; buckwheat, 10@11c. Extracted in fairly good demand, especially California, of which there is abundant supply. We quote white sage, 6½@7½c; light amber at 6@7c, according to quantity; buckwheat at 6c per pound: Southern at 50@60c per gallon, according to quality. Beeswax steady at 29@31c.
Hildreth & Segelken.

Cincinnati, Feb. 19.—At the present time the demand for honey is quiet; however, we fully believe the near future will bring better reports, since all indications point to a prosperous season. We continue to quote amber extracted honey in barrels at 5¼@6c; fancy white extracted, 7¼@8½c, in crates of two 60 pound cans. Comb honey is moving slowly at 13½@15c, according to the quality. (Bee-keepers, please observe the above are our selling prices—not what we are paying.) Beeswax, choice, bright yellow, 30c delivered here.
The Fred W. Muth Co.

Denver, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections: off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
The Colo. Honey-Producers' Assn.

Kansas City, Feb. 19.—The supply of comb honey is fairly large, also extracted. We quote fancy No. 1 white 24-section honey at $3 00 per case; amber, $2.75. White extracted 6½c, and light amber 6c. Beeswax, 25@30c.
C. C. Clemons & Co.

Cincinnati, Jan. 23. — The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5¼@5½c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c.
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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., MARCH 8, 1906 No. 10

Home and Apiary of C. H. Harlan, of Mora, Minn.

(See page 210.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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Contents of this Number

Illustrations—
Home and Apiary of C. H. Harlan........ 1st Page
Kandratieff, G........ 210

Editorial Notes and Comments—
Propolized Quilts for Smoker-Fuel........ 209
Reading One or More Bee-Papers........ 210
Will Very Young Bees Work Afield ?........ 209

Miscellaneous News Items—
Bee-Keeper's Home Burned........ 210
Death of G Kandratieff........ 210
Home and Apiary of C. H. Harlan........ 210
National Association........ 210
Northern Michigan Convention........ 210
Officers of Colorado Association........ 210

Contributed Special Articles—
Beeswax—Its Origin, Composition, Etc........ 211
Color of Wax........ 211
Composition of Wax........ 212
Dadant Methods of Honey-Production (No. 5) 212
Refining Wax........ 211
Wax Preparation........ 211

Canadian Beedom—
Dead Bees on the Alighting-Board........ 213
Expensive Carelessness........ 213
Pure Seed Special Train........ 212
Ripening Honey........ 213
"Whipped Honey"........ 212
Winter Bee-Repository Above Ground........ 213
Wintering Bees—Wrong Conclusons........ 213

Our Sister Bee-Keepers—
"Glucose a Blessing"........ 214
"Glucose Harmless"........ 214
"Glucose and Its Uses—The Honest Label"... 213

Mr. Hasty's Afterthoughts—
Adult Bees and Foul Brood........ 214
Hershiser Bottom-Board........ 214
How the Celled Queen Develops........ 214
Position of Hive-Entrance........ 214
Wax-Moth........ 214

Southern Beedom—
Baby Nuclei and Queen-Rearing........ 215
"The Rearing of Queen-Bees"........ 215

Dr. Miller's Question-Box—
Amount of Stores Used in Wintering........ 217
Cleaning Out Old Combs and Unfinished Sections........ 216
Cracker-Box Hives........ 216
Fall Feeding of Sugar Syrup for Winter Stores 216
Folding Faulty Sections........ 216
Increase by Swarming or Buying........ 216
Italianizing and Caucasianizing Bees........ 216
Large Hives, Etc........ 216
Moving Colonies a Short Distance........ 216
Swarm-Catching Device........ 216

Convention Proceedings—
Control of Increase........ 217
Proper Retail and Wholesale Prices of Honey 218
Wisconsin State Convention........ 217

Reports and Experiences—
Bees Do Move Eggs........ 218
Changing Queens........ 218
Frames........ 218
Handling Hives, Not Frames........ 218
Mild Weather........ 218
Rendering Combs into Beeswax........ s18

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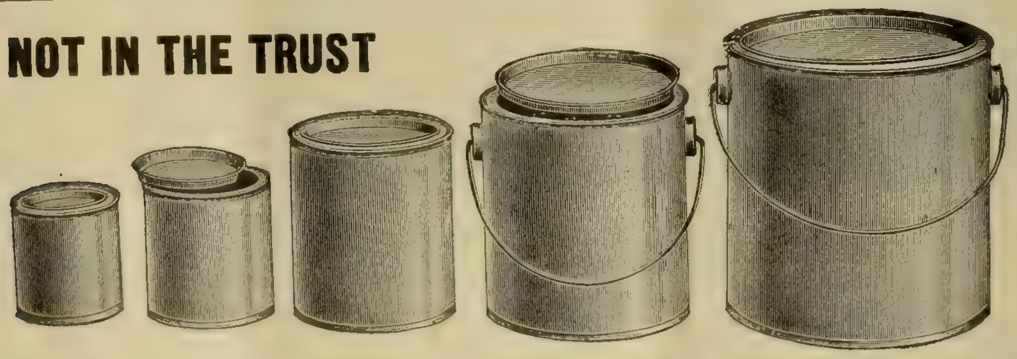

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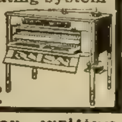

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March sees bee-activity in practically every portion of the United States. In the extreme South bees are already gathering honey. In the middle South the buds are swelling and pollen coming in. In the North the bees have occasional flights. EVERYWHERE bee-keepers are getting ready for the harvest. It is high time Supplies were ordered and made up. It does not pay to delay another day. Very soon our early-order discounts will be discontinued. And, too, if you are not ready for your bees it is ten to one you will lose bees and honey—money.

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GEORGE W. YORK, Editor CHICAGO, ILL., MARCH 8, 1906 Vol. XLVI—No. 10

OUR TOIL DOTH SWEETEN OTHERS

Editorial Notes and Comments

Propolized Quilts for Smoker-Fuel

On page 137 was given a clipping from the British Bee Journal recommending the use of old bee-quilts as a good thing to subdue bees of unusual viciousness. In a later number of the same journal, "J. G." reports a case in which he used this article to subdue the bees, and the more he smoked them the more it seemed to infuriate them; and finally he had to beat an inglorious retreat from the enraged little creatures.

Will Very Young Bees Work Afield?

It is well known that division of labor prevails in the economy of the bee-hive, and it is pretty generally understood that in the normal course of affairs in the busy season a young bee performs household duties until something like 16 days old, and for the remaining 26 days of its life it is a "field hand." It is also well understood that there are exceptions to the first part of this rule. When, after the winter's nap, the queen first begins to lay eggs, and, indeed, during the first 3 weeks of her laying, there is not a bee in the hive under 16 days old. Not only are all the workers more than 16 days old, but the youngest one has already lived somewhere from 2 to 5 months. And yet, with nothing but these old bees in the hive, there seems to be no trouble in having the eggs and brood properly cared for.

To this it may be replied that although these bees may have come into existence months before doing duty as nurse-bees, yet that existence has been so nearly in a dormant condition that they are to all intents and purposes still young bees—a view further substantiated by the fact that their span of life at this time of year covers months as against weeks of the busy season. The question is not whether a worker can act as a nurse after it has spent more than 16 days in a dormant condition, but whether it is still fit as a nurse after having already faithfully served its full 16 days at the business.

To this comes the reply that the fact has been established, and may again be established, in the following manner: Quietly remove from its stand a hive containing a full colony at a time of day when no bees are at play, or early in the morning before any bees have left the hive, and set it some distance away upon a new stand. Upon the old stand place a hive of combs containing a little honey but no brood. As soon as the bees from the old hive, upon returning from the fields, begin to assemble at the new hive upon the old stand, take the queen from the old hive and put it into the new. There will be in this hive no bees except fielders, and yet the queen will lay and brood will be reared in a normal manner. That seems to prove conclusively that although under normal conditions a worker does only field-work after passing the age of "sweet sixteen," yet when necessity arises it may again turn to housework.

It would seem not altogether unnatural to believe that if, when the necessity arises, a bee past the usual nursing age may again take up that duty, a very young bee might in its turn, conditions demanding it, turn to field-work. What about that? On page 139, L. Stachelhausen cites so good an authority as Baron Berlepsch to prove that bees not more than 11 days old are not competent to gather honey and pollen, saying:

> "Another experiment proves that the bees of a colony, in which no actual field-bees are present, and no brood were to be fed, when 11 days old could not gather any pollen or honey, and were in a starving condition when the experiments were ceased to save the bees. Baron Berlepsch concludes from this that the bees can't become field-bees earlier than at the regular age, even under the most pressing conditions."

But now comes this note from Dr. C. C. Miller on this subject:

> That's a very pretty fight between Messrs. Getaz and Stachelhausen. Both men are able and candid, and I hope they may continue sparring until we have some additional light upon the very important matter of the cause and prevention of swarming. But I am constrained to say that one of the foundation stones upon which Mr. Stachelhausen builds is not as reliable as it might be. He quotes an experiment of Berlepsch, as proving that bees under 11 days old will starve rather than do field-work.
>
> Some years ago, upon receiving an imported queen, I put her in a hive with several frames of ripe brood, being very careful that not a single bee was allowed to remain on the combs. The hive was closed bee-tight, and not opened until 5 days had expired Not long after the entrance was opened bees were seen returning to the hive with loads of pollen. They could not have been more than 5 days old, and their appearance did not belie their age. It would not be difficult for Mr. Stachelhausen to repeat the experiment. I think others have had a like experience.
>
> C. C. MILLER.

"When doctors differ," etc. It is at least a supposable thing that there were some special conditions in the experiment of Berlepsch of such nature that no field-work would have been done, even if bees much beyond the requisite 16 days of age had been present; and, in any case, if there was no mistake in Dr. Miller's experiment, the fact that he had seen bees not more than 5 days old go afield would hardly be nullified by the fact that one, or several others, had not seen a like occurrence. All the same, it would be a good thing to have the testimony of others upon this mooted point.

Reading One or More Bee-Papers

D. M. Macdonald, the very intelligent Scotch contributor to the British Bee Journal, quotes W. L. Coggshall as saying:

> "I can not afford *not* to take all the bee-papers published in the United States, and, moreover, I can not afford not to scan every page after they come to hand."

And then adds:

> "I read a round dozen, and rarely miss a single paragraph of any one of them. In every issue I get new matter well worth the price of the paper. My opinion is that no investment in bee-keeping pays better than the money spent in bee-literature. Several good text-books are indispensable, and two or more bee-papers are equally so."

Miscellaneous News ✣ Items

The Natioal Association is doing business right along. General Manager France says $275 in dues have been received since Nov. 1, 1905, $104 of it being at $1.00 per member. He also says many letters received lately report bees wintering nicely.

A. Y. Baldwin, of DeKalb, Ill., one of the oldest readers of the American Bee Journal, died Feb. 20, 1906, with pneumonia, after about 10 days' illness. He was one of this Journal's best friends, sending in one or more new subscribers every year. He was born in Oneida Co., N. Y., Sept. 29, 1831.

The Officers of the Colorado Association, elected at their meeting in January, are as follows: President, W. P. Collins, of Boulder; Vice-President, F. Rauchfuss, of Denver; Secretary, G. Tomlin, of Ft. Collins; Treasurer, Mrs. R. A. Rhodes, of Platteville; and member of Executive Committee, Oliver Foster, of Boulder.

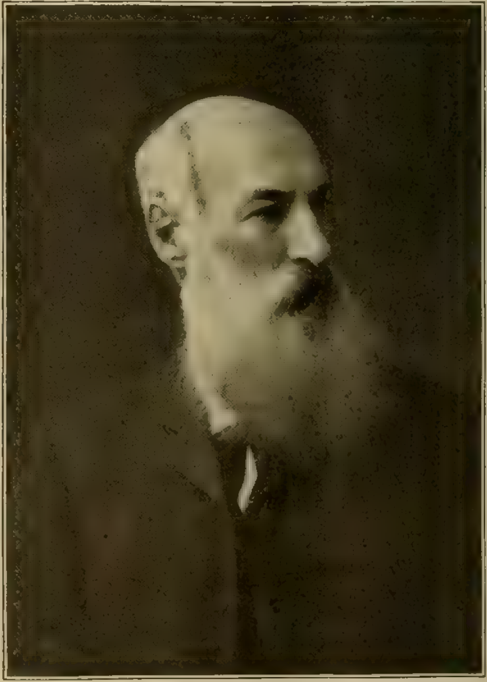
A Bee-Keeper's House Burned.—D. E. Barker, of Oklahoma City, Okla., was building a fine new house, and on Feb. 9, at 6 a.m., it caught fire from the flue, and was burned. All of his furnishings, and some of his bees, were also burned. There was no insurance, and he is unable to rebuild. Besides all the foregoing, Mr. Barker has been sick nearly all winter, so not able to do much. Surely he has been unfortunate. "No insurance" should serve as a warning to all. See to it that your property is properly insured *now*.

The Home and Apiary of C. H. Harlan are pictured on the first page. When sending the photographs, Mr. Harlan wrote as follows:

> The picture of my apiary was taken from the north end of the porch of the dwelling-house. The bee-hives are facing the south. The end of the house shown in the picture of the apiary is the bee-house. My bees are north and west of this house, which has 2 full-size windows—one in the end and one in the side close to the northwest corner. These windows are put in horizontally, or right opposite to what they are in a dwelling-house. I have a work-table in this corner of the building, and by having the windows as I have mentioned, I have a full view of the whole bee-yard without leaving the work-table.
>
> As to the residence and other buildings, I can truthfully say that it is a home the bees built. C. H. HARLAN.

Leroy Highbarger, of Leaf River, Ill., is one of the older readers of the American Bee Journal. For several years he has been in ill health. On May 15, 1905, he was stricken with paralysis, and lost the use of his left arm; it also affected his sight, so that he can not see to read, but he can get around with the use of a cane, and says he has a good appetite. He would like to see all of his old friends again. Through his affliction he has not been able to attend to his bees, and reports a very light crop of honey for the last season. Surely, all of us will sympathize with Mr. Highbarger in his affliction, and hope that he may entirely recover.

Death of G. Kandratieff.—L'Apicoltore, of Milan, Italy, announces the death of the eminent Russian apiarist, Mr. G. Kandratieff, who is known to the readers of the American Bee Journal as the translator of the Langstroth-Dadant book, "The Hive and Honey-Bee," into the Russian language. It was through his efforts that progressive apiculture was brought to the notice of Russian bee-keepers. He was 72 years old, and was manager of the Theatre-Marie, in St. Petersburg. We published a biographical sketch of Mr. K. on page 260 of the American Bee Journal for 1901.



G. KANDRATIEFF.

The Northern Michigan Bee-Keepers' Association will hold its next annual meeting at Kalkaska, Mich., Wednesday and Thursday, April 5 and 6, 1906. Generous prizes are offered for certain exhibits. W. Z. Hutchinson, E. D. Townsend and Geo. H. Kirkpatrick, the President, will read papers. Special hotel rates are given by the Manning House. Send to the Secretary, Ira D. Bartlett, East Jordan, Mich., for a copy of the announcement, list of prizes offered, etc. Then attend the convention if you possibly can do so.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Contributed Special Articles

Beeswax—Its Origin, Composition, Etc.

BY ADRIAN GETAZ.

FOR a long time it was thought that the bees were gathering the wax on the plants; in fact, the pollen was taken to be the crude wax thus gathered. Later on it was discovered that the wax is produced by the bees in a way similar to that by which a cow produces milk. It comes out of their bodies under the rings of the abdomen at eight different places, four on each side. It is then of a pearly white color, and in the shape of flat pellets. These pellets are taken up and put together in building the combs.

When new the comb is nearly white, but to me it seems to be not quite as white as the pellets of wax with which it has been made. It seems to me more yellow. Evidently some of the bees' saliva and other mouth excretions must get more or less mixed with the wax, and perhaps contribute toward giving it the yellow tinge. The mixture of saliva may also explain why the moth-worms can live and grow on wax alone, or rather the combs. It is impossible for any animal—insect or worm—to grow without what is termed "nitrogenous substances." Now the wax is not a nitrogenous substance, but the saliva of the bees, or the product of some of the mouth-glands, is. So, if any is mixed with the wax forming the combs, there would be some nitrogenous matter for the use and growth of Mr. Moth-worm.

It has been frequently noted that a sheet of comb foundation is tough and leathery compared with the natural comb built by the bees. This is chiefly due to the compactness of the foundation, caused by the pressure of the rolls, or, worse yet, the Weed machines. The lightness of the natural comb may possibly be due partly to a mixture of the saliva. In analyzing the wax, the comb is always melted, and the bees' saliva, if there is any, goes off in the water. It would be well to investigate again in some way to retain and study the saliva, or whatever mixture, if any, may be with the wax.

Color of Wax.

The color of the wax has not been fully investigated. The pellets of wax fresh from the abdomen are certainly white, or very nearly white. The freshly built comb is certainly a little more yellow, or at least it seems so to me. Later on it becomes dark yellow, then brown, and finally so dark as to be practically black. What are the causes of this darkening?

One is unquestionably the rearing of brood. Every bee-keeper has seen new combs that were yet very light in color except where some brood had been reared. There the comb had already assumed a pretty dark-brown color, due to the excrement left by the hatching brood.

But even where no brood has been reared, the comb will eventually assume that dark-brown color, but of course much more slowly. I am at a loss to account for it. None of the text-books and papers that I have examined give any clue to it except, of course, what concerns the brood.

Every one knows that the common flies, when running over the glass of the windows or pictures, leave small, round, dark specks. What every one does not know is that these specks are made by their feet. These are provided with a kind of sponge that secretes a sort of glue. That glue enables them to stick to any surface on which they walk, even on the ceiling of a room. If the reader will turn to his text-books, he will find that the feet of the bees are provided with the same kind of arrangement. And I suppose that the sticky substance that enables them to walk anywhere is one of the causes of the darkening of the combs. Not only the combs, but the exposed wood on which they walk, walls of hive, frames, sections, etc., and especially the entrances of the hives. These become, in course of time, as dark as any comb. Yet that does not fully explain all the particularities.

Wax Preparation.

To prepare the wax, the combs are usually melted with some water; the wax rises to the top, and most of the impurities, brood-cocoons and brood-excrements, also rise to the top. Usually a layer of pure wax is found first, then a layer of impurities mixed with wax, then some impurities in the water, and finally pure water strongly colored by the combs, if they are old and dark. In that last case the wax will also be very dark.

Cheshire says that water containing lime or other alkaline substances damage the wax. Some European writers claim that water containing iron will color the wax. In either case, the trouble could be avoided by adding a little sulphuric acid—one teaspoonful for a gallon of water would be sufficient for the worst cases.

The trouble comes when an attempt is made to separate the wax from the impurities that are below the layer of pure wax. With very old combs, or combs containing pollen, dead brood, etc., there is no layer of pure wax—the whole top is a mixture of wax and impurities. It is claimed that the press alone can separate the wax from the impurities—the slumgum, as they are called. I have not had sufficient experience with the press to be positive in my assertions, but I do not think that the wax can all be pressed out of the pores of the slumgum, unless water is made to take its place. And if such is really the case, it is better to dispense with the press altogether.

Several processes and apparatus to extract the wax from the slumgum with the aid of boiling water have been described. I described one in this paper a few years ago. I have since made a change in it. The cheapest is to use a wash-boiler, with a partition of fine wire-cloth placed at five or six inches from one end. The combs to melt and the water are put into the large compartment. Of course the water goes also into the other through the wire-cloth. So does the melted wax. In fact, this small compartment is for the purpose of dipping out the wax without being bothered by the slumgum. As the large compartment is open, the slumgum can easily be stirred, punched and mashed, until every particle of wax is out.

It is best to have the fire rather low until the wax is all melted and dipped out. That is, as much as possible, for it takes quite a boiling to get it all. The reason for it is because the wax just melted is of a much brighter color, not being yet tainted by the excrements of the brood and other coloring substances that may be in the combs. In fact, these coloring substances are first dissolved by the water and then absorbed from the water by the wax. For that reason the wax should be dipped out as fast as it melts. While the first dipped is quite bright, the last may be almost black through long contact with the water.

As much salt as the water can dissolve should be added to it. It helps the separation of the wax considerably, partly by raising the heat to the boiling point, partly by increasing the density of the water, and, therefore, the tendency of the wax to rise above it. The wash-boiler, or any vessel in which the operation is done, should be tinned. Galvanized iron and copper may give the wax a kind of green color.

Refining Wax.

The wax thus prepared is often too dark for commercial purposes, or for surplus comb foundation. But it can be brought to a bright color by treating it with sulphuric acid. The best way to do it on a small scale is to melt the wax with about the same quantity of water in a tin vessel. A tin bucket will do. It should not be quite full, as there will be some foaming. When the water is boiling, or nearly so, and the wax quite warm, the vessel is taken from the fire. The acid is then poured in very slowly, the wax being stirred well all the time. As the acid does not act at once, it is well, when a spoonful or so has been poured in, to wait a minute or two before pouring more. The action of the acid causes a foaming, and if it was poured in too fast the wax might run over. Be sure not to drop any acid on your hands or clothes, and to pour it in the mixture very slowly, otherwise there will be serious trouble.

Keep stirring the wax all the time. When the foam is white, and the wax under appears of an orange color, the operation is done. The vessel is put back on the fire; the wax, or rather the water, brought to a boil, and then the vessel is taken out and left to cool. The slower it cools the better. I usually put it on several thicknesses of old newspapers; put over and around quite a number;

tie them with a string so that no portion of the vessel is exposed, and when thus fixed the wax does not get completely cold in less than 36 hours.

Composition of Wax.

Just now the question of adulteration threatens to become very serious, and the tests that can be used to detect the adulterating substances may well be examined. Unfortunately the determination of the purity of a sample of beeswax is quite difficult, nearly as much so as that of honey adulterated with glucose.

To begin with, the wax is not, as generally supposed, a single substance, but a mixture of three different ones, which do not respond alike to the tests that may be applied.

The first one is the cerine, sometimes called cerotic acid. It dissolves easily in boiling alcohol, and melts at 172 degrees Fahrenheit. It crystallizes from its dissolution in delicate needles.

The second is the myricine. This dissolves in boiling alcohol with much difficulty; it takes at least 200 times its weight of alcohol and a prolonged boiling. Boiled with a potash lye, it is transformed into a kind of soap. It melts at 127 degrees. It is of a greyish white color, and does not crystallize.

The third substance is the ceroleine. It is quite soft, very soluble in alcohol, and melts at about 60 degrees. There is only 4 or 5 per cent of it in the wax.

One of the text-books I have before me gives the proportion of cerine in the wax at 14½ per cent, and another at 22 per cent. A third one merely states that the proportion is quite variable.

While the myricine is easily transformed into a soap, the other two substances are transformed only with a very strong lye in large quantities and with a prolonged boiling. Eventually the whole wax is transformed into a soap, or rather a mixture of several kinds of soap. These differ from the soaps formed with vegetable oils and animal fats, in that they do not contain any glycerine.

It has been said that this transformation of the wax into soap might be used to detect the presence of any mineral wax or other similar substance mixed with the wax. I doubt it. I have not before me enough information to decide the question, but a strong, boiling potash lye will decompose almost anything in that line.

Knoxville, Tenn.

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5—Dadant Methods of Honey-Production

BY C. P. DADANT.

I WISH to digress a little from the task of describing our methods, to speak to you on two subjects which I have seen discussed lately, and on which I cannot agree with some other apiarists.

The first of these subjects is the age of combs. It has been held by some bee-keepers that the old-time bee-masters were right when they practiced the changing of the combs every few years; that worker-combs 10 or 15 years old are altogether too old for any use; that the queen will not lay eggs in such combs, and that if she does, the worker-bees hatched in them will be dwarfed in size and unable to perform their duties.

We have combs in our apiary which were old combs when I was a boy, and which are good yet. I do not mean to say by this that all combs may be kept until they are 40 years old, and that they will prove as good then as when new; but I insist that many worker-combs are as good when they are 20 to 30 years old as when first built, and in some cases better, because when they have some age they are tougher, and consequently better able to stand the strain of hot summer days.

The greatest damage to worker-combs is done by the soiling of them by drones, or by the travel of workers, so that those combs, or part of combs, which are nearest the entrance will be most likely to become unfit for use in the course of 25 or 30 years.

As I said before, we have some in use which were old when I was yet a boy. Some 5 or 6 years ago we had had such a succession of bad seasons that I began to wonder whether we were not overdoing the old-comb business, for I must tell you that we have never destroyed an old worker-comb until it was plain and evident that the queen would refuse to lay eggs in it. I had about come to the conclusion that we must change the combs in some of our hives, because these combs were altogether too old.

Just then came the season of 1903. Every one of those colonies that had good laying queens, in hives which had stood so long that the hive-body had to be replaced with a new box—every one of those colonies filled from 2 to 5 supers twice during the season. There was not a bit of difference in results between those colonies in combs the most of which were 30 years old, and the colonies on combs 3 to 4 years old. So much for old combs in a good colony during a good season.

The other question is that of shade. I notice in another bee-paper, that Mr. Alexander, of New York, thinks that shade is injurious to the bees, and that colonies that are in the shade yield less than those which are in the open. I must say that we have part of an apiary which is shaded rather to excess, and I had wondered whether we were not at fault in letting such a thick growth of trees and shrubbery surround our bees. The season of 1903 settled this point also, for the colonies that were in the thickest shade yielded just as much as the others—a tremendous crop.

There is perhaps one item to consider in the shade around an apiary. If the shade is low down, and very dense, so that the rays of the early summer sun are entirely intercepted, there may be a short delay in the awakening of the bees, and they may lose a little time in the early morning hours by the existence of this thick shade which delays the arrival of daylight. But if the shade is overhead, and the morning sun's rays are not altogether intercepted, there is no loss in the existence of that shade. I do not know but that even a slight delay to the bees may be beneficial, for it will prevent them from starting out when the weather is still cool. With a very early start, some of the bees may find themselves chilled, and may perish or become so numbed that they are compelled to alight and remain inactive until the sun warms them. So, after all, even a little delay may be beneficial.

There are some advantages to shade which certainly help make up for the possible disadvantage. There is less suffering from the heat of the sun during the hot part of the day, the bees are less likely to hang out, and the hive is less likely to become warped or to check under the sun's rays.

Climate has some influence on these points. In a very hot climate, such as that of the Mississippi valley, where the sun is powerful and the nights exceedingly warm in summer, shade is beneficial, without a doubt. In more temperate climes, where the cornstalk is not known to grow up 2 inches in a single night, as it often does in Illinois hot nights, the usefulness of shade-trees may be less advantageous.

Hamilton, Ill.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

"Whipped Honey"

A returned missionary from Turkey, now resident in Massachusetts, writes asking where candied honey can be obtained. In Turkey it is beaten while candying, and is sold as "Whipped Honey."

A Pure Seed Special Train

Tremendous is the interest taken in agriculture by the Canadian Government. Witness the following clipping from the Farming World and Canadian Farm and Home:

The Pure Seed Special.

Great interest is being taken in the West in the "Seed Special" train now journeying through the West in the interest of clean seed and the eradication of weeds. The train consists of two auditorium cars and a living car for sleeping and dining accommodation for the lecturers. In addition, the private car of the freight department of the C. P. R., for the accommodation of railway officials who will discuss with the farmers present any matters of mutual interest. The train will remain one hour at the stations previously announced by a schedule.

A score of lecturers, including Dr. Fletcher, Ottawa; G. H. Clark, Seed Commissioner; Prof. Black, Winnipeg; Angus McKay, Indian

Head; S. A. Bedford, Brandon; James Murray and W. C. McIllican. of the Dominion Seed Division, and Mr. John A. Mooney, Valley River, Man., will address the farmers at the various stops. Samples of all kinds of grain grown in the Northwest, samples from unclean or inferior seed, and samples from weed-invested crops, are shown. The movement has the co-operation and support of every agricultural organization in the West, including the various provincial departments of agriculture.

Dead Bees on the Alighting-Board—Ripening Honey

The appearance of numerous bees on the alighting-board at this time of the year need not be the signal for alarm respecting the condition of the colony. The ordinary mortality of an average colony will at times block the entrance of a hive, an accumulation of as many as two or three handfuls of dead bees being found on the floor-board. During cold weather these bees fall to the floor inside the hive, where they are not visible to the bee-keeper, and while the cold spell lasts are of little harm, as the colony is inactive; but if the temperature is such as to enable the bees to leave the cluster, they will do their best to rid the hive of them, which accounts for their consequent appearance on the alighting-board in such apparently appalling numbers. Instead, however, of being a sign of unhealthfulness or disease in a colony, this may be taken as quite a reverse indication, for the strongest and most active colonies will have the board more thickly covered with such refuse.—E. W., in Journal of Horticulture and Home Farmer.

Speaking of the ripening of honey by the bees, "E. W." says, "It is possible that the bees assist in reducing the moisture by extracting the watery portion of the honey for brood-rearing and for their own use."

Is there anything in this? I have never seen or heard the idea brought out before.

Wintering Bees—Wrong Conclusions

Experiments amounting to nothing when the observer fails to draw logical conclusions from the results. Ida M. Stephen, in The Epitomist, copied in the Montreal Witness, has this to say about wintering bees:

EXPENSIVE CARELESSNESS.

When the winter sets in freezing cold and you wrap up the bee-hives with old quilts, comforts, etc., don't forget to take them off when the weather moderates. More damage is done by covering bees up too warmly than by not covering at all. A friend of mine did this last winter—piled much stuff about his bees, and forgot to take it off when a warm day or two set in. Consequence was, the bees got a good sweating out, and water ran everywhere in the hive, the honey came uncapped, the bees were all stuck up and helpless, a big breeze set in and froze up the water in the hive, bees and all.

The conditions may be truly observed so far as they are observed, but the conclusions are wild. At least it is news to me that bees ever "sweat." The probable explanation is the ventilation was *nil*, the entrance probably closed, the hive ran with moisture from the breath of the bees; they died from dampness and poor ventilation—not warmth. Incidentally the dampness caused the honey to swell, burst the cappings, and run down over the combs and poor, smothered bees.

Winter Bee-Repository Above Ground

My "bee-cellar" above ground was a small frame of 4x4 inch scantling about 14x18 feet. I first boarded up outside and inside which left a 4-inch space in the wall. Then I put up 2x4 inch studding outside and inside, and boarded it up, using matched siding outside. Then I filled the inside and outside spaces with sawdust, giving two 4-inch walls of sawdust with a 4-inch air-space between. The floor overhead is covered with 4 inches of sawdust.

I then put a lean-to on the south side, 8 feet wide with a 4-inch wall filled with sawdust, and sawdust overhead. The door is open between it and the main part most of the time. The whole has a double floor of lumber. I have about 64 hives in the lean-to. R. LOWEY.

* * *

The Maritime Farmer, published in New Brunswick, has an Apiary Department conducted by E. L. Colpitts, Petitcodiac, N. B.

The Premiums we offer are all well worth working for. Look at them in this copy of the American Bee Journal.

Our Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

"Glucose and Its Uses—The Honest Label"

The reading of an article in the January number of The Delineator will very likely cause some to ask, "Is it possible that money from the overflowing coffers of the glucose interest has been used to secure the insertion of an article making a special plea for glucose in this ingeniously covert manner?" The high character of the publication forbids any such belief; and yet if space had been bought for the advancement of the glucose interest it could hardly have been used to better effect. It is the women of the land who decide mainly what shall come upon the table; it is a woman who writes the article, and it is published in a woman's journal of highest standing and widest circulation.

It is one of a serious of articles under the general heading, "Safe Foods and How to Get Them," the sub-head of this special article of more than three pages, by Mary Hinman Abel,being "Glucose and Its Uses—The Honest Label." It is a well written article, making the general reader likely to say, "Here is the whole truth about glucose, the deception used in its vending told in the most frank and uncompromising manner, and yet when all is told it is not such a bad thing as I had supposed." And yet if Mrs. Abel had been a little less superficial in her investigations the conclusion of the whole matter could hardly have been as it now stands.

Throughout the article are items pro and con, ingenuously, let us say, rather than ingeniously, intermingled, a few of which may be quoted, confining the quotations to those of special interest to the sisters who are engaged in bee-keeping:

> There is no fairer row on the grocer's shelves than that which exhibits glass bottles of extracted honey, table syrups and transparent jellies. But doubt seems to hover over this goodly array, as you learn from the grocer himself when he finds that you really want to know the truth. Here is a 14-ounce bottle of maple syrup, price 40 cents. It is "undoubtedly genuine," he tells us, and we wonder if such a high price must really be paid for the surety. Here is a bottle of the same size for 25 cents, still a good price, but the dealer is not sure that the label is a truthful one, although bright-colored maple leaves surround the name, and it is a "good seller." On a can of table syrup is a picture of a cane-field, and if you look closely you will see in the thick underbrush the mysterious word "Compound." And here is one instance of the truthful label from a State with strict laws. It reads, "80 percent corn syrup, 20 percent sugar-cane."
>
> Half a million tons of this substitute for sugar are manufactured in this country every year, but you would hardly find it sold as glucose, unless, perhaps, by the apothecary. I once succeeded in buying some glucose at a candy-kitchen. The proprietor seemed displeased that I should know it was in his possession, and evidently feared that his use of it would be condemned.
>
> In the glucose factories of the United States 35,000,000 bushels of corn are used, and the output, as estimated by Rolfe & Dufren a few years ago, amounted to a thousand million pounds. Fifteen to 20 percent is exported, about as much is used by brewers as a substitute for barley malt, and the remainder finds a ready market with the canners, the confectioners and the mixers of table syrups, molasses and extracted honey.
>
> Next to maple syrup, the dainty, most popular with our national breakfast cake is honey. And we buy honey in the comb when we would much prefer to buy extracted, because we feel that man's ingenuity in making substitutions is here baffled. The making of those wonderful cells has never been achieved by man, nor can he work as cheaply as the busy bee, which never strikes—except in self-defense—and never takes a holiday. Nor can this intelligent insect be induced to eat glucose, though thousands of dollars have been spent on the experiment. But extracted honey? That is another story. Regarding the adulteration of extracted honey, the truth seems to be as sensational as any one could wish.
>
> There are a few firms that sell an undoubtedly pure honey. But here, as with maple sugar, we have a high flavor that will "carry" a large admixture of what is comparatively tasteless. The temptation to mix glucose with honey is great, and it is not resisted. With glucose at 1 or 2 cents a pound, and pure liquid honey at 7 and 8 cents, as quoted a few years ago by Mr. George W. York, editor of the American Bee Journal, the reason is evident. Mr. York says that he himself can tell by the taste an admixture of 25 percent glucose, but most of us would be easily deceived by 50 percent. Even as high as 80 or 90 percent glucose is used in these mixtures.

Quite an arraignment, is it not? Think of a billion pounds of glucose consumed in a year, 12½ pounds for every man, woman and child; more than a pound a week in the average family of 5 members, and yet all of it masquerading under some other than its true name! Should an honest product act in that skulking manner?

But let us have some further quotations from the same article, and let us not fail to notice the conspicuous side-heads:

"GLUCOSE HARMLESS"—"GLUCOSE A BLESSING."

Is it, then, a dangerous or poisonous food? It is, on the contrary, perfectly harmless. It belongs to the sugar family; it is a true food like sugar and starch, and of about the same nutritive value. In 1886, some 10 years after the establishment of the industry in this country, a committee of eminent scientific men, members of the National Academy of Science, made to the United States Government a report on the process of manufacture. They reported that glucose contained no injurious substances. "That, though having at best only about two-thirds the sweetening power of cane-sugar, yet starch-sugar is in no way inferior to cane-sugar in healthfulness, there being no evidence before the committee that maize starch-sugar, either in its normal condition or fermented, has any deleterious effect on the system even when taken in large quantities." That this report is also true of present conditions we find by reference to any modern treatise on hygiene

Before the Senate committee three years ago it was asserted that "the great concern in Chicago that controls its manufacture is conducted on scientific principles, and its goods are perfectly healthful and clean."

The fact is that glucose is a partially digested starch, the dilute acid effecting the same change in it as do certain ferments in our own digestive tract. Our meal may be of potato and bread, but the very action of the saliva on the starch of these foods begins to turn it into this kind of sugar even before the food is swallowed.

Very recently the tendency to call these syrups by their right name—"corn syrup"—is very marked. Sold at a low price. and under an honest name, this new product is a blessing. To quote the advertisement, it is "the great spread for daily bread."

Cane syrup and molasses sell for 60 cents a gallon, corn syrup for 30 cents or less. An addition to our list of cheap and wholesome condiments is always to be welcomed. The exclusive grocer who "will have nothing to do with it" can be likened to a dry goods-merchant who would sell only high-priced silks and wools and disdain cotton fabrics.

As we have seen, there is at present no ground for the assumption that glucose is any other than a healthful food; even when taken in excessive quantities, it would probably be neither more nor less harmful than cane-sugar. But it should be remembered that, as found in Nature, this glucose sugar is either chemically found with other sugars, as with levulose to form cane-sugar, or it is found in company with them as with fruit-sugar in grapes; and investigations of recent years made by scientists have shown that these different sugars exercise a favorable influence on each other's utilization by the organs and tissues of the body.

It is, therefore, quite possible that further investigation and longer practical experience with its use may show that it would not be entirely advantageous for the sugar of our diet to be furnished solely by this one variety, which is a derivative of starches and compound sugars, unbalanced, as it were, by any of the counterpart sugars with which it is found associated in Nature.

It is not harmful, according to the evidence now available. What is needed is honest labeling wherever it is an ingredient, in order that the purchasers may know what they are buying.

Let us hear now the conclusion of the whole matter in the closing paragraph:

This, then, is the truth about glucose. It is a wholesoome food, although less sweet and highly flavored than our older sweets. It is cheap; it ought to be openly sold on its own merits. The ignorance and prejudice of the buyer are largely responsible for the present situation. A few States require the honest label, fewer execute the law. The remedy is more intelligence on the part of the consumer.

Ask for the Honest Label.

Well, what of it? Isn't it all true? Let us turn our attention to that in a succeeding number of The Delineator next week.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Mr. Hasty's Afterthoughts

OUR TOIL DOTH SWEETEN OTHERS

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

HOW THE CELLED QUEEN DEVELOPS.

Very improbable, I should say, that the incipient queen puts no silk armor around the base of her chamber *for the definite purpose* of having it easier for her rival to kill her. That looks like a self-refuting absurdity—at least we want to see some such self-injurious device in Nature fully proved up before taking stock in one. The view advanced by Allen Latham looks reasonable. Has to remain immovable posterially, else she would drop into the point of the cell and die there. Having only partial freedom she simply spins the silk on up as far as she can reach, and lets it go at that. Page 67.

THE HERSHISER BOTTOM-BOARD.

Hershiser's bottom-board is "high and mighty"—and there is chance to say so much for it, and chance to say so much against it, that purely theoretical reasoning about it may not be the best thing. Let's wait till we hear from a sufficient number of those who have used it and continue to like it. Apparently saved Mr. H.'s bees when the furnace went on a tear in his absence. But an adversary would be sure to say: "Put your bees out of reach of runaway furnaces." Pages 68, 73 and 74.

ADULT BEES AND FOUL BROOD—WAX-MOTH.

Scientists say adult bees have foul brood, and practical men say they don't. Well, that, after all, need not trouble us much. Probably both are substantially right from their own point of view. No very serious significance to the disease except among the larvæ—but still findable when a sharp observer goes for it with a microscope.

Between Adrian Getaz and Prof. Cook I guess the latter got wrong this one time. The young of the wax-moth *prefer* comb that has had brood reared in it; but, on a pinch, they *can* eat themselves to maturity on the other kind. Of course if fed nothing but absolutely pure beeswax they would starve for want of nitrogen; but no comb is pure beeswax; and Prof. Cook happened to let slip the memory of that fact. Weigh out a few ounces of the purest virgin comb you can get, render it into wax, and you will be surprised to see how much less it weighs. As a guess, I'll guess that the substance which rendering removes is partly dust and partly dried saliva of bees—both substances on which we can *imagine* a larva as subsisting. At any rate, visible evidence that extracting combs which never contained brood do get eaten up sometimes will have to stand.

Mr. Stachelhausen stands well up in the first rank of writers—yet in the one paragraph quoted by Mr. Getaz, we find him apparently very badly off his base. H'm—what's the name of that man who does always have his foot on the bag? Page 72.

POSITION OF HIVE-ENTRANCE.

The capacity of being stampeded pertains specially to horses and cattle—but liable to extend to man once in awhile. We should not allow ourselves to be stampeded into moving all our front doors to the roof of the house, in advance of preparatory experiments of our own. But we should be opinionated know-it-alls of a bad grade if we ignored, or tried to poh-poh out of consideration, a new plan which shows so much evidence. I'll guess that the great increase of surplus was really owing to better wintering. Given a locality where the winter climate is mild and damp, and the surplus nearly all gathered very early in the season, and these things, as below, might show up with two comparison colonies. Colony A, old-style entrance, might come out in spring tolerably strong in numbers. Colony B, entrance at top, not very much stronger. Casual glance sees not much difference in their working. But, on careful scrutiny, it appears that there is more vigor and vim at B; more bees per minute go out and in when you count them—and the bees there have on the average more days of life remaining to them. At A dampness and discomfort wore them out badly, although not many died outright. The style of ventilation at B resulted in dryness, and that in turn resulted in comfort. Time, according to book, "slept on flowers and lent his glass to hope." Next result was that B was ready for the early and only harvest while A was not. For A to get only 20 pounds of surplus while B was getting 80 would not be remarkable under those conditions. (Colony A splendidly strong and eager and ready a few weeks later; but it's no use then.)

Very improbable, I should say, that mere position of entrance would make any material difference with an August or September harvest. Bee-trees, I understand, often have the entrances above the combs. Were it generally true that colonies so situated gather twice as much, bee-hunters ought long ago to have noted and reported it. Page 72.

Southern ✣ Beedom ✣

Conducted by Louis H. Scholl, New Braunfels, Tex.

They Say that so many bee-keepers are behind the times. Which should they do—push or pull?

* * *

The Trouble with a good many persons is, they want to start in the bee-business at the boss end of the job.

* * *

To Know how to do a thing is a main point towards success, and the cheapest way to learn it is the best. An excellent plan is to get all the information and experience possible from others, and in the columns of the bee-papers is where this can be found. Of course, you should be equally willing to impart knowledge and experience. Some people seem to be possessed with the idea that *the* way to learn is by personal experience, but in this only too many times can be applied Josh Billings' old saying, that "experience is a mighty dear school." Only too many of *us* have found this to be only too true, so let it be *a warning to the inexperienced who are after experience.*

Baby Nuclei and Queen-Rearing

Right along the line of queen-rearing comes an enquiry just to hand:

> In the last American Bee Journal I have read with a good deal of interest an article in "Southern Beedom" about "baby nuclei." You use these words, "A double screen is used over the brood-nest." What do you mean by a "double screen?" Do you mean a sheet of perforated zinc to prevent the queen from passing, or do you mean a screen made of close-woven wire-cloth? Why should it be double? Would not one thickness of wire-cloth answer? In placing the partitions in the hive-body, of course you place them in the long way, and not across the hive. I believe this plan of rearing and mating,queens will work all right, and I intend to give it a trial. Arthur Ott.

As I think Mr. Laws' method of mating queens, as referred to on page 140, one of the best, if not *the* best, cheapest, and most practical for the honey-producer, I shall describe it more in detail. While with Mr. Laws in his apiaries last fall, he described his methods right on the hives in the yards, and I must say that I rather like the plan, and I am now preparing to give it a thorough trial.

The double screens used are made in the following way: A rim, the exact size and outside dimensions as the top of the hive, is made of ¾-inch square stuff. In the middle, between the side pieces of the rim and running crosswise of this, is nailed another piece of the same ¾-inch stuff, to keep the wire-cloth from sagging and coming together. Both sides of the partitioned rim are now covered with common screen wire-cloth. This is tacked on with a few tacks, and on top of its edges all around are tacked strips ¼-inch thick and ¾-inch wide, forming a shallow rim to allow a bee-space between the screen and the frames. At the same time it makes a stronger screen by holding the edges of the wire-cloth down, and as the ¾-inch side-pieces of the main rim are cut full length, and the end-cleats only the inside length between these, the pieces of the ¼-inch rims are cut just in the opposite way. The end-cleats of these are cut full length, while the side-cleats are shorter. This forms a sort of dovetailed, or, rather, a lock corner, which strengthens the screen and keeps it true.

The reason for having the screen double is that the bees above and below are cut off more from communication, putting them in a queenless condition better, which makes it easier to introduce cells or virgins to the partitioned nuclei.

Another *important* factor is, that if only a single wire-screen is used the bees from below tantalize the virgin queens above to such an extent that many queens are not successfully mated. This trouble is obviated by having the communication cut off by two screens with a ¾-inch space between them.

The partitions in the hive-bodies run the long way, and are simply solid board walls. Each of the partitions will therefore admit the use of any standard frame from any hive in the yard, and does not necessitate any special frame. This is an important factor for the honey-producer.

A 10-frame hive-body is divided into 3 parts, which allows 3 nuclei of 3 combs each—generally one of honey, one brood, and one of foundation. Such a body is placed above one of the double screens over a brood-chamber containing a colony of bees. Ripe queen-cells are introduced, or virgins, and the queens allowed to mate, entrances being provided to each partition for this by auger-holes through the outside walls at different parts. A second screen and another body thus partitioned can be used above. If the brood-chamber below is made queenless this makes 7 nuclei all in one, and a queen can be mated successfully in each. The same combs can be used again for a second lot, but Mr. Laws thinks it is better to start with a new lot of bees.

After the queens are mated and removed, the whole lot of nuclei are united into one colony. A new hive is placed on the stand, after having removed the "nuclei colony," and all the bees are shaken from the different partitions in front of this new hive, and allowed to run in as a swarm. During this the bees are handled rather roughly, and a good deal of smoke is used, which permits of a queen being dropped among them and allowed to enter the hive.

It is not necessary to remove the queen from the lower chamber, as queens are mated just the same above such a colony, as there is no communication between the different parts. This makes it valuable for the honey-producer, as he can have his queens mated on any colony in the yard, with very little trouble and expense.

"The Rearing of Queen-Bees"

Bulletin No. 55, U. S. Department of Agriculture, Bureau of Entomology, Washington, D. C., on "The Rearing of Queen-Bees," has been read with much interest by me. A delay in receiving a copy of this Bulletin was caused by its being sent to my old address at College Station, or mention of it would have been made of it ere this in "Southern Beedom." It is something that I have long wished for, namely, a bulletin giving in compact form the latest methods and *modus operandi* for rearing queens. A bulletin of this kind affords a most easy way of answering enquiries where the questioner asks a dozen, or sometimes even more, questions that would consume much time to answer. In the case of experiment station workers, who are always more or less "kept busy" by being asked just such questions, it is an easy matter to refer the enquirer to "Bulletin No. so-and-so, which will give you the information desired."

Of many and more common subjects, a large number of bulletins are kept on file of each in the different departments, and enquiries are answered simply by mailing one of the bulletins giving the information. Hence, the reader can easily understand the value of a bulletin containing information on queen-rearing, all in compact form, for the enquirer of such information.

Dr. E. F. Phillips, the writer of this Bulletin, has been devoting much time and study to the subject of queen-rearing, and he covers the subject quite thoroughly, and in such style that it is especially helpful to those bee-keepers who wish to rear queens for their own use, and who are not acquainted with the better methods of procedure in queen-rearing. For this class this kind of bulletin is mainly intended. The methods given have been tested, and success has been obtained with them. To the advanced queen-breeder there will be very little "new," yet there are often points brought out in practical works of this kind that even gray heads had not thought about, or that were overlooked or perhaps forgotten by them.

The price of this Bulletin is 5 cents.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Cracker-Box Hives—Large Hives, Etc.

1. Can I make a good hive from a cracker-box covered outside with weather boarding? I have a fair supply of each.

2. In the practise of using large hives and taking out all frames not in use during the super-storing season, and putting in a division-board, have the bees free access to the space thus created?

3. Do bees winter well in observation hives?

4. Which is the best to put over the frames in winter a solid board, a chaff cushion or a cloth, packing the super with leaves? Illinois.

Answers.—1. It would make a good box-hive, and I see no reason why a good frame hive might not be made of the same material, with care in measurements.

2. No, the space must be filled with dummies or in some other way to prevent the bees from building comb in it. If, however, the colony is queenless the bees are not likely to build comb in the empty space in the brood-chamber. It may be well to mention that bees do not work so well in that part of the super which is over the part not occupied with combs in the brood-chamber—a matter of some consequence in working for comb honey, but not when working for extracted.

3. No; although an observation hive might be constructed, and perhaps some are, so as to be all right for wintering.

4. The last, for outdoor wintering; in a cellar it matters little which, if the cellar is all right and the hive has a large entrance.

Fall Feeding of Sugar Syrup for Winter Stores

For outdoor wintering how would it do to feed every colony up full of sugar syrup in the early fall? Nebraska.

Answer.—You can winter bees very successfully in that way; and it is certainly much better than to let bees starve or winter on unwholesome stores as are some kinds of honey-dew. Yet there are those, especially in Europe, who hold that continued feeding of sugar will lead to less vitality on the part of the bees. Certain it is that they can not rear brood on sugar alone. But, then, neither can they on honey alone; they must have the nitrogenous material contained in pollen.

Italianizing or Caucasianizing Bees—Folding Faulty Sections

1. I have an apiary of 25 colonies of hybrid and brown bees. I wish to rear queens and requeen them this summer. Would you advise Italians or Caucasians?

2. Do you know of a better plan than you give on pages 237-8-9 of "Forty Years Among the Bees?"

3. Sometimes we get sections that will not stand square when folded. My way to handle such is to press one corner having the acute angle (not the joint corner) against the table on which I am working until the crease opens. Then with the point of a pocket-knife, or one corner of a hive-scraper, I rub into the crease some propolis or wax which will hold the section square so that the foundation will keep the proper position. This is quickly done, for one or two strokes are all that is necessary. This saved a case of sections for me, for they were almost useless without some sort of tinkering. Indiana.

Answers.—1. Certainly Italians until Caucasians are better known; although it is all right to experiment with Caucasians. Some speak very highly of Caucasians, and some think them the worst ever. So while it would not be wise to start with them entirely, it would be well to try them side by side, but on a small scale.

2. Yes, I don't know of any better way for me—and I should think also for you. For those who rear queens on a larger scale, other plans may be better; but I'm not so sure of that. You notice that the breeding queen is kept in a 2-frame nucleus. I don' know that there is any advantage in this, except that the queen will last longer when laying so few eggs. And the brood taken from this queen to start queen-cells may be given to *any* strong colony that is conscious of its queenlessness.

3. Sections rightly made ought to be square; but your plan seems to work with the faulty ones. In this locality we pay no attention to the matter; for when they are wedged up in the super they must become square and stay square.

Swarm-Catching Device—Increase by Swarming or Buying?

1. What kind of a device can I use to put on an 8-frame Langstroth hive to catch the bees when they swarm, without interfering with the work of the workers? I am just starting into the bee-business and have 8 colonies, but wish to increase the number of colonies rather than to obtain a large amount of surplus honey. I work in an office during the day, so I do not have time to catch the swarms that come off.

2. Would this be the cheapest way to increase, or would it be cheaper to keep my bees from swarming as much as possible, thus getting a large amount of surplus honey, and buying the extra colonies? They can be had for $1.00 to $1.50 per colony in box-hives. California.

Answers.—1. A queen-trap at the entrance will serve your purpose. Then when you come home in the evening and look at the trap, you will see when the queen is in the trap by the unusual number of bees. The same evening, or next morning, take away all the brood with plenty of bees to take care of it, fill the hive with frames of foundation and liberate the queen, and you have very much the same condition as if you had been at home to hive the swarm.

2. I don't know; perhaps a little of both. When you take away the brood and bees, as indicated in the previous answer, you can divide it into two parts, making sure that neither part is without one or more good queen-cells, and that will make your number trebled. If you want to increase at a more rapid rate instead of dividing in two parts, put all the brood into one hive, shaking off very few of the bees into the old hive, but leaving a good lot of bees with the brood. From this brood, bees will be hatching out all the time, and in 6 or 7 days you can divide, making a nucleus for each 2 frames of brood, making sure that each nucleus has one or more good cells centrally located where there is no danger of their being chilled. Of course, one of the nuclei will be left on the stand where the brood and bees have been standing for the past 6 or 7 days, but this nucleus may be left with fewer bees than the others; for there will be a return of a good many field-bees to the old location. You may ask, Why wait 6 or 7 days before dividing? One reason is that at the time of swarming there is more or less unsealed brood, and this will be better cared for if all are kept together. Another reason is that if the bees are divided up in the first place, there will be more tendency to discouragement and desertion than after waiting for more bees to emerge.

Cleaning Out Old Combs and Unfinished Sections—Moving Colonies a Short Distance

1. I have some old combs containing quite a good deal of honey in frames of odd sizes, none of which will fit my hives. Will it be safe to place these combs in boxes a few rods from the hives, giving a very small entrance—for one bee at a time—on a bright day after the bees commence collecting pollen from the soft maples? Or would I better cut out these combs and put in supers on top of the hives? I would like to have these combs cleaned out so I can melt them up into wax; but, of course, I want to be careful not to get my bees into the habit of robbing,

2. I also have some unfinished sections from last year. I had intended to put these on the hives as soon as it gets warm enough to remove the chaff, and let the bees clean them out at their leisure. Will this be a good plan?

3. Will it be safe to move a colony now on a high stand

facing the east to a low stand 6 feet away and facing the southeast? Will many of the bees get lost when they fly out? INDIANA.

ANSWERS.—1. It will be quite safe to feed in the way you outline. Neither do you need to fear as to robbing, even if the entrance is not left so very small. The bees that empty these combs will take to the flowers when they bloom.

2. Yes, if the bees can be induced to empty them. But they are not so sure to empty them when placed on the hives as they are when the sections are placed some distance away, say 2 rods or more. But if placed away from the hives you must leave entrance for only one bee at a time, or the bees will tear the tender combs.

3. Something depends upon the weather. If, after the moving, the weather is cold enough to confine the bees to the hive for a few days, or if the bees have not been flying for a few days—say a week or so—there will be little trouble about moving bees any distance, great or small. In the particular case you mention there will be no trouble, even if the bees are flying every day, provided no other colony stands within 6 feet of where the colony in question now stands.

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Amount of Stores Used in Wintering

1. Last winter I weighed 3 hives to see how much they would fall short per month, and for January I found 2 went 3½ pounds each, and 1, 4½. In February 2 went about 3½ to 4 pounds, and the other went 6. The weather was cold. The ones that used 4½ and 6 pounds died in April, leaving honey. This winter I weighed again, thinking perhaps it might be a good way to tell how they were doing, and what ones might die. They are in a shed made purposely for them, 30 inches wide, 14 feet long, and one tier or row. On the other the floor is about 10 inches above the ground. Both ends and back are closed with a good roof, and their backs turned to the north. The front is all open.

The weights of some are as follows:

No.	Frames.	Dec. 1. Lbs.	Jan. 1. Lbs.
1	10	52½	40
2	8	41	35
3	10	50½	47
5	10	57½	53
6	8	47½	44
9	10	48	46
10	8	46	42
11	10	50	45
12	8	47	43
13	10	56	52
15	10	51	47
16	10	51½	47
17	10	55	51

The rest are too heavy for my scales, as they weigh only 62 pounds. To look at them on the outside of the hive they all seem to be alike—only a few dead bees, and the rest run about alike, and turn out about the same. The hives are the dovetail. The 8-frame hive-bottoms are the same thickness as the sides, ⅞ I suppose. The 10-frames have reversible bottoms, which are much thinner than the 8-frames, making them of about equal weight. I will say that an empty hive and combs would weigh about 25 pounds. The thermometer has shown for the coldest 12 degrees below zero.

1. How cold has it been with you? Do you think it might be best to put the bees into the cellar where it would be warmer?

2. What about those using the most—Nos. 1, 2 and 11? They fly only when it warms up to about 55 or 60 degrees. ILLINOIS.

ANSWERS.—1. I think it has been no lower than zero here up to Feb. 1. You are about 150 miles further south, and it has no doubt been quite a bit warmer there than here, only it has just happened that you have had a very cold spell. You speak of the bees flying at 55 or 60 degrees. We've had no weather here so warm since November.

2. It is doubtful that it would be well to cellar your bees. You are in latitude 40 degrees, and in ordinary winters it is best to leave bees out so far south. The usual consumption of stores this winter is not because it is colder than usual, but because it is warmer. I suspect that your bees have had several flights, and the more numerous flights stir them up and make them consume more. In so mild a winter they would probably have suffered if they had been in the cellar.

3. For some reason, perhaps not easily understood, these have used more stores than others. That does not say that they may not be wintering as well as others, only they must be watched and fed if there is any danger of their starving. Your bees, very likely, are getting along all right, and need nothing more than watching to see that they do not run short of stores. But it would be no harm to try the experiment of cellaring two or three colonies to see how they would compare with others—cellaring them not more than a day or two after their having a flight.

Convention Proceedings

Report of the Wisconsin State Convention

BY HARRY LATHROP.

The Wisconsin State Bee-Keepers' Association met at Madison, February 6 and 7, 1906. There were between 40 and 50 present, nearly all men. The weather was cold, and doubtless deterred some of the ladies from attending. We want them to know that we missed them, and hope all will make an effort to attend next year.

It is also true that none of the bee-paper editors were present, and only one bee-supply firm was represented, that of the G. B. Lewis Company, by Mr. Bacon, who is also a bee-keeper. We missed the editors and want to remind them that it will be our turn to entertain them next year.

On the whole, we had a good showing, considering the weather and the fact that a good many of our members had attended the National Convention at Chicago, and doubtless thought they could not afford to go to Madison.

To my mind, one of the most important features of the meeting was the following paper by C. A. Hatch, on

CONTROL OF INCREASE

There comes a time to every successful bee-keeper when he has all the bees he wants, and would like less swarming and more working of bees—less work in hiving increase he does not want, and more work taking off surplus. He reads all the literature on the subject, and every article in the papers on control of increase is sure of his careful attention.

He reads essay after essay telling the cause of swarming. One says too many bees, another too much brood, another too many nurse-bees, another too much honey, another too much larval food—until, almost distracted, he comes to the wise conclusion that it is simply their nature, and therefore cannot be entirely stopped, but is something that needs direction rather than suppression. It is the expression of force, surplus energy of the colony, the legitimate result of unused power and strength.

All the efforts of the bee-keeper since early spring has been to get and increase this surplus force, for, from this, comes his honey crop; the surplus of force that is not required to support and carry on the regular demands of the hive give the surplus honey for which the bee-keeper labors.

Up to a certain point all the strength of the bees is used to support the legitimate wants of themselves. The temperature must be kept at a proper point, larvæ must be fed, comb must be built or cleaned and polished to receive eggs, etc.; and it is only after all these wants are provided for that the attendant bee-keeper can hope for any increase of stores for his share; but to get each colony above this condition of self-support is his constant aim—even part of the honey stored goes to support the colony.

Let us compare a colony to an engine. In the spring the fire is low and no steam can be used, but the bee-man keeps adding more fuel (honey), and by June 1st he has steam up so he hopes to overcome the inertia of the engine and do some work. He looks well to each leaky pipe, sees that the safety valve is set at the right notch so a blow-off would not spoil all his effort to keep up a working power of steam.

The swarm is the safety-valve to the hive. We force our bees up to a high pressure of working force, but unless we look at this natural outlet—just as we turn on our steam to run our machinery (surplus)—away goes our safety-valve; a swarm issues, and we have to begin again to get up steam.

As far as I know, there are three means of absolutely preventing increase by swarming: First, caging the queen; second, removal of brood; third, removal of bees. Any or all of these are open to objection, for the reason that they destroy the very conditions toward the accomplishment of which our whole effort has been directed. What would you think of an engineer who would pull the escape-valve wide open as soon as he had a working pressure of steam? And yet that is just what many of our bee-men are doing in principle. Rather let us do as the engineer does; if he has surplus of steam he puts on more machinery and directs the force at his command to some useful purpose. The swarm is our working power; let us seek to use it as such; direct rather than destroy; concentrate rather than scatter. Keep them with the home colony as long as we can, by giving large storage capacity, shade and proper ventilation, and, when the swarm does come, hive it back on the old stand, and give them all the bees, and see how they will pile up the surplus. Use the brood to build up weak colonies.

The whole problem would be very simple if keeping down increase was all of it, but all "increase of colonies at the expense of the honey crop" is an axiom that cannot be ignored, and to control the increase and keep the honey coming in right along is a difficult matter. Taking away part of the bees strikes at surplus. Taking away part of the brood is only deferring the same result; but when the honey season is short, and would be over before this brood would be added to the working force, it is correct in theory. Caging or removing the queen cuts at surplus in two ways—by demoralizing the domestic arrangement of the colony, and also cutting off the working force later on.

Some think they have solved the problem, but I am free to confess that after trying all that seems to me plausible I have found none I could recommend as a labor-saver or a "sure thing."

The keeper of a large apiary in Arizona said to me, "It is not so much a question of keeping down increase as keeping down the desire to swarm."

In considering this question it was with me more of what not to say than what to say. It is so large a subject, and one of so much interest to all bee-men, that a whole day of our convention could be profitably spent in its consideration. Any plan of control that lessens the working energy of the colony, makes more work for the bee-keeper, or requires costly fixtures, is objectionable.

C. A. Hatch.

Proper Retail and Wholesale Prices of Honey.

Another important discussion followed the question, "What should be the uniform retail price of extracted honey to consumers in Wisconsin? and what should be the uniform wholesale price to producers in this State?" It was brought out that prices differed considerably in different locations, some who sold to consumers in small packages obtaining as much as 12 cents per pound for good, ripe extracted light or dark honey.

The result of the discussion showed that it would probably be a difficult matter to establish uniform prices over the State, but it seems very clear to a lot of us that it is desirable that honey should become a staple to a much greater extent than it is, and that the difference between the wholesale and retail prices should be small. It does not help the producers much to have some man, who happens to be a good salesman, pay them about 5 cents per pound and sell to consumers for 12 to 15 cents. It does not create a steady and reliable demand for honey. People can not afford to use much honey at those prices. It comes into competition with a lot of things—sugar and syrups of various sorts—that are of a uniform price. These sugars are sold at a very small margin of profit by the retail storekeepers. What we want is retailers who will pay the producer a fair price—say at least 8 cents—and sell to consumers for a small margin. When this is done we may look for an increase in honey consumption. Many storekeepers will not handle honey at all, and some are afraid to buy over 60 pounds at a time for fear of being overstocked.

If we could establish uniform prices on our honey the same as we have on sorghum molasses and on eggs, it would be the greatest boon to producers of anything that could happen. There is doubtless some gain to be made by adopting small tin packages and placing them in the retail stores.

It was established in this discussion that bee-keepers could have the same price for their dark honey that they got for the fancy white, if they would ask it, and if it was good, ripe honey. A great many people prefer amber or dark honey to any other. It is all honey, and should be sold as such.

(Continued next week.)

Reports and Experiences

Mild Weather—Frames

We are having mild weather here, as the temperature is generally rising and falling between 40 and 60 degrees, but the last two days I have been lost to know whether it is summer or winter. The bees are roaring around just as they do in June. I went to look at the thermometer, which was in the coldest place, and lo! it was 70 degrees!

Well, I am sorry for Yon Yonson. I wonder where he spent the night before he started home from Chicago. It surely must have been a dream; but, never mind, Yon, come again. I have missed you very much, and was glad to see you back.

After testing frames pretty well last summer, if I could have done so, I would have exchanged the Langstroth-Hoffman frame for one with 3/8 or 7-16 inch top-bar like the closed end-bar frame. Those that I have fit so close that propolis doesn't bother a bit. The top and bottom bars are all right, but the Hoffman end-bar is just made for propolis, and the V edge is the worst of all, for it is almost impossible to keep it clean.

Bees have plenty of stores, the weather is fair, and nothing to do. O. K. Rice.

Grays River, Wash., Feb. 1.

Bees Do Move Eggs—Changing Queens

Allow me to add my testimony to that of Messrs. Alpaugh, Holtermann and Pettit, regarding the question of whether bees do move eggs, in reply to the challenge of Mr. Diefendorf, on page 165. I have seen 2 queen-cells reared on a comb that had been in the honey-house all winter, and that was introduced opposite a comb of brood at the time of removal of the queen. The bees had evidently removed some of the eggs to enlarge some cells for queens, and had seen fit to place two of these in the opposite comb. It is true I saw this only once, and I may live never to see it again; but it is conclusive proof to my mind that bees do move eggs, though not often.

You may count me, also, with Mr. Doolittle, among those who do not think it right or profitable to change queens every year, or even every other year. The older I get the less need of it I see. C. P. Dadant.

Hamilton, Ill.

Handling Hives, Not Frames

I have received the following from a Canadian reader: "On page 54 of the American Bee Journal, you say: 'I want a divisible brood-chamber, etc.' Again, 'as I want to handle hives, and not frames.' Please explain through the Journal, as a little reflection should show you that not one person in ten thousand can understand the statements."

In saying "I want to handle hives and not frames," I supposed that most bee-keepers knew that the deeper the frame the more bulging combs they would have, while with a very shallow frame, like the shallow extracting-frame, even a careless hand would have very few bulging combs.

Now suppose you wanted to take off 20 or 30 supers filled with those straight, shallow frames. All you have to do is to pick up a super, frames and all, and jounce them a few times about as hard as they will stand on an empty box with the edges sharp and the bottom out, and you have the bees all out ready to extract without any brushing or handling of combs.

Now for operation No. 2—Increase: Should you wish to make two new swarms besides the prime, or parent colony, all you have to do is to hive the prime swarm on the old stand and separate the two halves of the old colony, putting each half on a new stand, and they won't swarm again even if they have a dozen queen-cells.

Operation No. 3.—Putting on supers: To get bees to enter a super with a divisible brood-chamber, all you have to do is to put the bottom half of the brood-chamber on top of the top half, then the super on top of all, and that puts the brood up close to the super and sends the bees above to store.

Operation No. 4: Contraction is accomplished by simply removing the lower half of the brood-chamber about 48 hours after hiving the prime swarm, and putting on more supers above the excluder.

It will be seen in each of these operations I handle hives, not frames; and, furthermore, with a shallow frame like this, you can see every queen-cell from the bottom without taking it apart. Geo. B. Whitcomb.

Foster, Oreg.

Rendering Combs into Beeswax

Use a 50-gallon caldron kettle and a large-size metal wash-tub, into the bottom of which drill 20 or more ½-inch holes. Then make a cover to fit into the top of the tub, like a hub, with a 1½-inch hole through it—4 spokes and a rim made out of a barrel-hoop. Cover the wheel with fine wire except the hole in the center. Now make a stirring-shaft to go in the tub under the cover with 4 arms to extend above the cover 18 or 20 inches, and long enough to rest on the bottom of the tub, with the arms long enough to reach almost to the sides of the tub. Then you are ready to fill the tub with comb.

Set the stirring-post in the tub, fill around the arms with comb, and fill the tub full to the cover. Pack it as hard as you can, then put on the cover, pushing it down hard on the comb. Put a stick through the handles of the tub over the circular cover; that will hold the cover in the tub. Now set the tub containing the wax into the kettle; weight it down, put in water enough to cover as deep as the kettle will allow, but it *must* be under water. Then fire and let it boil. After it gets almost boiling hot you can turn the stirring-shaft easily. Turn it frequently to stir up the slum-gum so the wax can rise, and after one hour's boiling let it stand until it cools, as the tub can not be lifted out of the melted wax without filling the whole mass with wax again. I tried a funnel-shaped skimmer and used it the same as for skimming a can of milk, but it does not take off all the wax, so I found it best not to try to render more than one tubful a day.

Now for results: If boiled long and stirred frequently, there will not be 5 percent of the wax left in the old comb the next day after boiling.

I will now tell its faults: Instead of a tight tub there should be a wire receptacle to hold the wax, shaped like a tub, then it would be almost perfect, I think, as the tub does not allow a free circulation of the water.

The wire on the cover should go on the underside of the cover. C. W. COOLER.

Eagle Grove, Iowa.

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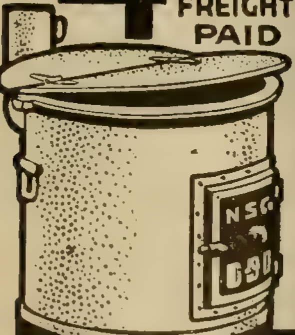

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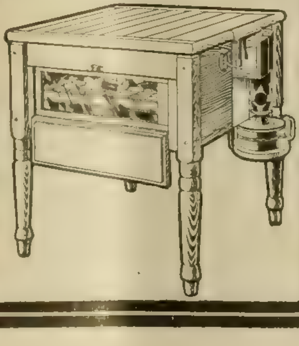

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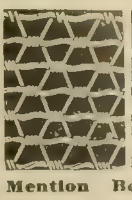

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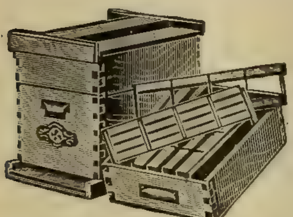

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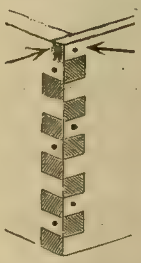

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Honey and Beeswax

Chicago, Feb. 7.—The demand is about normal with sufficient stocks to meet all requirements. The best grades of white comb honey bring 14@15c, with off grades at 1@3c less, depending upon color, condition and shape. Extracted, aside from white clover and basswood, (choice grades of which are practically unobtainable), is in ample supply at 6½@7½c; amber, 6½@7c, with off grades still lower. Beeswax, 30c. R. A. Burnett & Co.

Toledo, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. Griggs Bros.

Indianapolis, Feb. 2.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, Feb. 19.—The condition of the honey market is much more firm than it was a year ago at this time, with much less on the market. Usually at this time of the year bee-men wake up to realize that they may carry their honey over and send it to the market to be sold at any price rather than hold it. At the present time the market is fairly well cleaned up. We quote: Fancy white comb honey, 16@17c; amber, 13@14c; extracted white clover, 7@8c; amber, 6@7c. Beeswax firm.

We are producers of honey and do not handle on commission. Wm. A. Selser.

New York, Feb. 19.—The demand is fairly good for better grades of white, and while the near by crop is fairly well cleaned up, new arrivals are now coming in from Cuba, besides several cars have been shipped on from California. We quote fancy white at 15c; No. 1, 13@14c; No. 2, 12c; amber, 11c; buckwheat, 10@11c. Extracted in fairly good demand, especially California, of which there is abundant supply. We quote white sage, 6½@7½c; light amber at 6@7c, according to quantity; buckwheat at 6c per pound; Southern at 50@60c per gallon, according to quality. Beeswax steady at 29@31c. Hildreth & Segelken.

Cincinnati, Feb. 19.—At the present time the demand for honey is quiet; however, we fully believe the near future will bring better reports, since all indications point to a prosperous season. We continue to quote amber extracted honey in barrels at 5¼@6c; fancy white extracted, 7¼@8½c, in crates of two 60-pound cans. Comb honey is moving slowly at 13½@15c, according to the quality. (Bee-keepers, please observe the above are our selling prices —not what we are paying.) Beeswax, choice, bright yellow, 30c delivered here.
The Fred W. Muth Co.

Denver, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections: off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
The Colo. Honey-Producers' Assn.

Kansas City, Feb. 19.—The supply of comb honey is fairly large, also extracted. We quote fancy No. 1 white 24-section honey at $3.00 per case; amber, $2.75. White extracted 6½c, and light amber 6c. Beeswax, 25@30c.
C. C. Clemons & Co.

Cincinnati, Jan. 23. — The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5¼@5½c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c. C. H. W. Weber.

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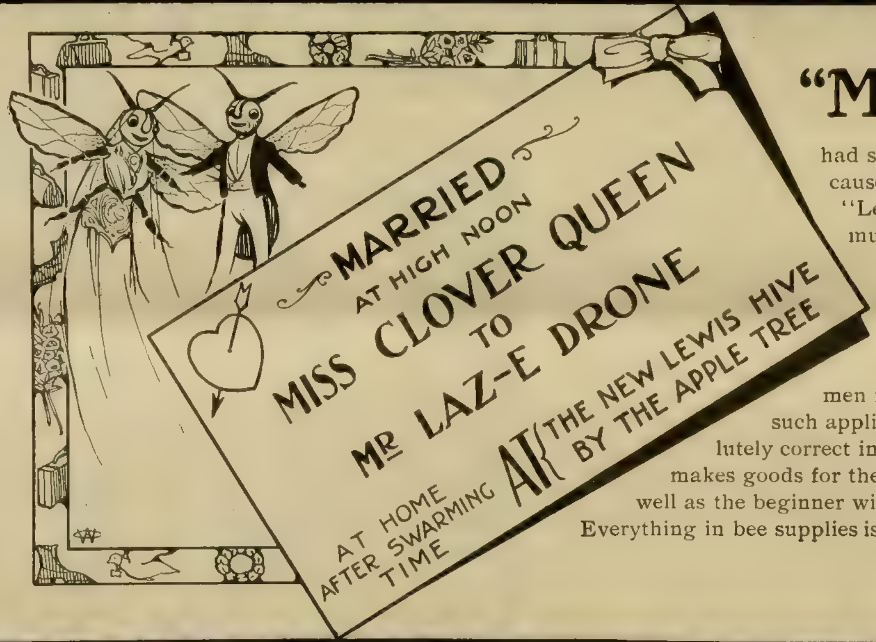

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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., MARCH 15, 1906 No. 11

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OF THE
National Bee-Keepers' Association

M. H. MENDLESON.

JAS. A. STONE.

APIARY OF W. H. DICKINSON, OF MIDDLETOWN, CONN.
(See page 230)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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(INCORPORATED)

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2. To publish facts about honey, and counteract misrepresentations of the same.

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Contents of this Number

Illustrations—

A Mistake 239
Apiary of W. H. Dickinson .... 1st Page
Divisible Brood-Frame 232
Mendleson, M. H .... 1st Page
Stone, Jas. A .... 1st Page

Editorial Notes and Comments—

Bee's Instinct of Self-Sacrifice 229
More Comb Honey Misrepresentation 229

Miscellaneous News Items—

Apiary of W. H. Dickinson 230
Bees Starved in Italy 230
"Got the Best" of Europe 230
Mendleson, M. H 230
National Convention Report 230
New Edition of "Forty Years" 230
Stone, Jas. A 230

Contributed Special Articles—

America to the Front 231
Among the Bees in the Spring 231
Dadant Methods of Honey-Production (No. 6) 232
Fruits in Germany 231
Honey-Plants 231
Rains in California 231

Mr. Hasty's Afterthoughts—

Bee-Keeping and Fruit-Growing 233
Concave Capping of Comb Honey 233
Formalin and Its Taste on Combs 233
Rogues in Other Trades Besides Queen-Trade. 233
Shade and Swarm-Holder—Swarming 233
Short-Lived Queens 233

Our Sister Bee-Keepers—

Cocoamel 234
"Glucose and Its Uses—The Honest Label" ... 234
March Comes Like a Lion 234

Canadian Beedom—

Bees an Interesting Subject 234
Running a Wax-Press 234
Swarming Habit 234
Wax-Rendering Processes 234

Southern Beedom—

Melilotus for Pasturage—Free Seed 235
More About Sweet Clover for the South 235
Spring Management of Bees 235
Sweet Clover as a Forage and Honey-Plant 235

Dr. Miller's Question-Box—

Age of Nectar-Yielding Basswood-Trees 236
Dequeened Colonies 236
Feeding Honey from Dead Colonies 236
Italianizing Black Bees 236
Keeping Queens a Few Days 236
Stimulative Spring Feeding 236
When to Do Spring Feeding 236

Convention Proceedings—

Choosing a Location 237
Report of Wisconsin Convention 237
Studies in Bee-Nature 237

Reports and Experiences—

A Mistake (Poem) 239
Bees Carry Eggs 238
Bees Wintering Well 238
Bees Working on Maple Sap 238
Clover Seems to Be Injured 238
Feeding Iron-Rusted Honey 238
Late Fall Feeding 238
Long Honey-Comb 238
Queen-Eggs that Wouldn't Hatch 238
Why Did the Bees Die Off? 239
Wintering Quietly 238
Wintering Well 238

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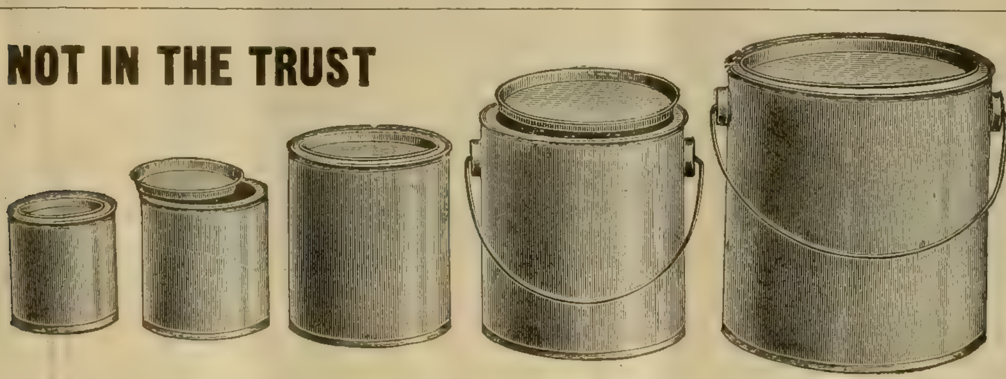

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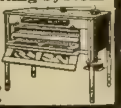

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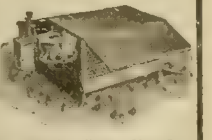

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March sees bee-activity in practically every portion of the United States. In the extreme South bees are already gathering honey. In the middle South the buds are swelling and pollen coming in. In the North the bees have occasional flights. EVERYWHERE bee-keepers are getting ready for the harvest. It is high time Supplies were ordered and made up. It does not pay to delay another day. Very soon our early-order discounts will be discontinued. And, too, if you are not ready for your bees it is ten to one you will lose bees and honey—money.

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Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor CHICAGO, ILL., MARCH 15, 1906 Vol. XLVI—No. 11

Editorial Notes and Comments

The Bee's Instinct of Self-Sacrifice

In an interesting article in the British Bee Journal, Col. H. J. O. Walker discusses this matter, saying in his first paragraph:

> Recently, in the journal of the Alsace-Lorraine Bee-Keepers' Association, there was an account of an experiment made by Dr. Buttel-Reepen, a well-known German scientific writer on bee-matters, which was designed to test the often reported devotion to their queen displayed, under circumstances of sore trial, by the workers of the hive. The queen, with about a hundred attendants, were confined in a box suitable for observation and containing but little food. In 48 hours signs of feebleness were apparent. Two days later all but 4 of the workers had died, the queen being still vigorous. Soon only one worker was left alive, and she, though no longer able to stand up, was seen trying to bestow a last droplet of honey on the queen, who came to her begging to be fed. An hour later the worker had perished, and the mother-bee was still walking briskly to and fro. A piteous tale; let us hope that the doctor's scientific curiosity is satisfied.

After some discussion of the matter, referring to the care which the queen takes of her own life, and the readiness of the workers to sacrifice theirs for the common weal, Col. Walker goes on to say:

> Yet we should err if, with our forefathers, we were to attribute to her a sentiment of filial devotion, seeing that throughout the animal world, even where in the early days the progeny has been dependent upon the parent for sustenance, there is no reason to believe that such a feeling, if indeed it ever existed, outlasts the period of dependency. The desire to preserve the mother-bee must be purely instinctive.

Whatever the scientists may decide, it will be a hard thing for the lay bee-keeper to dismiss from his mind all thought of sentiment on the part of bees, saying that they have no mental and moral characteristics, but are merely so many machines moved by an instinct they can not resist, hence deserving neither credit nor blame for anything they may do. He is likely to go on admiring the loyalty of the workers to their queen, saying that it is loyalty all the same, even if it be instinctive. It may be unscientific, but we of the laity are likely to continue saying:

"The affection of her subjects for the queen is something delightful to behold; but the anger of the bees toward the bee-keeper, when that anger is fully aroused, is something likely to awaken a kindred feeling in the mind of the more highly organized disturber."

More Comb Honey Misrepresentation

This time it is in school text-book called "Food and Its Functions: A Text-Book for Students of Cookery, by James Knight, Lecturer in Physiology and Hygiene, High School of Glasgow; Lecturer in Dietetics to the Glasgow School of Cookery and the West End School of Cookery."

Under "Lesson 37—Food Accessories," we find the following:

> Honey shows the following composition:—

	Percent.
Water at 100° C.	18.07
Water above 100° C.	7.99
Levulose	36.22
Dextrose	37.58
Ash	0.14

> It is thus essentially a mixture of levulose and dextrose, but it contains in addition mannite or manna-sugar, wax, organic acids, pollen, alkaloid matters and bitters derived from plants upon which the bees have fed, a small quantity of cane-sugar and alcohol, the latter always present in natural honey. Honey is occasionally intoxicating; in Nepaul spring honey is avoided for this reason, and the story of its effects upon Xenophon's troops will naturally recur to the memory. In this instance the honey was derived from a species of azalea (*Azalea Pontica*); the flavor of Narbonne honey is due to rosemary, that of Hymettus honey in Greece to flowers of the labiate order, while in our own country the difference in weight, color, and flavor between flower and heather honey is well known, the latter being the stronger of the two. Honey is largely adulterated by glucose syrup, as above described, and this "honey" may be sold as low as 2*d* per pound. Since starch-sugar is made by the action of sulphuric acid on starch, it has always from 15 to 20 percent of unfermented substances, which may be detected in the polarimeter by their positive rotation, whereas natural honey, consisting largely of invert-sugar, shows a negative rotation. The ash left on igniting pure honey is always alkaline, and contains phosphoric acid, while honey made from glucose has a neutral ash. Not only is the honey itself often wholly or partly artificial, but our American friends show a misdirected ingenuity in making artificial honey-comb so as still further to delude the consumer. The cells are made of paraffin, and the *tout ensemble* looks even more inviting than pure honey. The fraud may be detected by sulphuric acid, which carbonizes ordinary wax, but not paraffin.
>
> From Australia there has appeared within the last half-dozen years honey derived from the eucalyptus-tree. It is of a deep orange color but transparent, generally solid in such a climate as ours, but syrupy in warm weather. It contains 62 percent of sugar and 17 percent of eucalyptus oil, so that it has the smell and flavor of eucalpytus essence, and it is thus valuable as a medicine. It is given in warm milk and water in doses of one or two teaspoonfuls twice or

thrice a day for bronchitis, asthma, and diseases of the lungs and respiratory disorders generally.

Mead is, or rather was, an English beverage made from fermented honey.

Surely, here is at least one "be-Knight-ed" Englishman, when it comes to considering American honey. He probably read somewhere the misrepresentation that honeycomb here is made of paraffin, etc., and forthwith he copies it, parrot-like, in a text-book for public school children! And so the very youngsters learn the old lie about comb honey being manufactured. Is it any wonder that it is so hard to kill? Even authors, who above all people should be correct and truthful in their statements, occasionally show a lamentable carelessness, and in matters the facts of which could very easily be learned if really desired.

We trust that our English brethren will see to it that future editions of the book referred to are corrected. Here is a job for the British Bee Journal.

Miscellaneous News ✢ Items

The Corrispondenza Apistica, of Italy, reports that it is estimated that 85,000 colonies of bees have starved to death in Spain, on account of a much-protracted drouth. It will be a good thing for the bee-keepers in this country to see to it that their bees have sufficient supply to carry them through the spring, on account of the warm winter which doubtless has caused a greater use of the stores in the hive.

The Apiary of W. H. Dickinson, shown on the first page, is referred to thus in a letter:

> I send a picture of my apiary, with my helper with me. This small apiary, which numbers 10 colonies, gave me 1000 pounds of honey last season—one-half comb and the balance extracted; which is not bad for a side-issue.
>
> The little girl is not afraid of bees, and likes honey.
>
> W. H. DICKINSON.

The 36th Annual Report of the National Bee-Keepers' Association for 1905 is on our desk. It gives the proceedings of the convention held in Chicago last December; also a list of the cases that have come before the Association for settlement during that year, besides other items of interest. It makes a volume of about 200 pages, which includes the advertising pages. This Annual Report is mailed only to members of the Association. If you are not a member, and desire a copy, you should send $1.00 at once for a year's dues, to the General Manager, N. E. France, Platteville, Wis. The Treasurer's report showed a balance on hand Nov. 1, 1905, of $1252.

Mr. Jas. A. Stone, of Illinois, has just been selected to fill out the unexpired term of Wm. A. Selser, a bee-supply dealer and bee-keeper, whose resignation was reluctantly accepted by the Executive Committee as a Director of the National Bee-Keepers' Association.

Mr. Stone was born in Sangamon Co., Ill., May 6, 1842, on the farm which his father "entered" near Springfield, where he lives with his good wife and only son and his wife. They do business under the firm name of Jas. A. Stone & Son. They are extensive farmers, stock-growers, orchardists and bee-keepers. Their apiary numbers between 100 and 200 colonies annually. They always make excellent exhibits in the apiary department of the Illinois State Fair, and win many of the cash premiums offered.

Mr. Stone's selection as a Director of the National should give general satisfaction, as he is an up-to-date honey-producer and general business man of large affairs. He will give additional strength to the Board, as he is a man of fine character and high aspirations in life. We congratulate both Mr. Stone and the members of the National Association.

A New Edition of "Forty Years."—The last edition of Dr. C. C. Miller's book, "Forty Years Among the Bees," is exhausted. We expect to issue a new edition about April 1, so any orders now in hand, and that may be received from this time on, will be filled from the new edition. It will contain an appendix, continuing Dr. Miller's experience during the past three years, or since the last edition was published. The price of the new book will be $1.00, as before, or with the American Bee Journal one year—both for $1.75, postpaid. Better order now, and have a copy of the new edition. Address all orders to the office of the American Bee Journal.

"Got the Best" of Europe!—The Italian bee-paper, L'Apicoltore, for February, 1906, cites this from Prof. Cook's remarks made in the American Bee Journal of Dec. 21, 1905:

> "In getting from Europe such masters as the Dadants and Grimms, I believe we have secured the very best that Europe has to give."

The editor then follows with these questions:

> "Dear Professor, and where did Wagner come from? and Francois Huber, the blind seer? and Dzierzon, the discoverer of parthenogenesis? and Hruschka, the inventor of the honey-extractor? and Mehring, the inventor of comb foundation? and Leandri, the inventor of the sun wax-extractor? to name only a few. Were they Americans?"

Brother Editor, you are right. We need Europe as much as Europe needs us, and we can all learn from each other. But we take it that in saying in the Grimms and the Dadants America "secured the very best that Europe has to give," Prof. Cook meant that they were among the best—not that there never had been, nor exist now, others equal to them across the water. We know Prof. Cook well enough to assure our good European friends that he intended not the slightest discourtesy. So let us shake hands across the broad expanse of the Atlantic, for "we be brethren" all.

Mr. M. H. Mendleson, who has been selected to fill the vacancy on the Board of Directors of the National Bee-Keepers' Association, caused by the declination of Ernest R. Root, is one of the most extensive bee-keepers in the world. He was born Feb. 22, 1853, and has worked hard a great part of his life with perseverance and determination to succeed, regardless of difficulties, in whatever he undertook to do. For the past 10 or 12 years the seasons in California have been unusually poor, and so a check to the best success. Last season, had it not been for a big loss by the flood, causing the loss of one of his best apiaries, he would now have had about 2500 colonies of bees; and had he had sufficient good, skilled help, his honey crop would have run up to the 200-ton mark. He would certainly have succeeded had all worked as he had planned.

Mr. Mendleson has not had good health of late, caused partially by overwork and exposure, and still he does as much work as any man can do. He takes pride in his apiaries, on the best of locations, and admires order and neatness, for without these the best results can not be accomplished, or the results would be failure.

In 1903 Mr. Mendleson's crop was 22,000 pounds of comb honey and 90,000 pounds of extracted. He probably is the biggest bee-keeper on the Board of Directors. He also comes from one of the largest honey-producing States.

Perhaps after a few more of the officiary of the National

Association, who are not exclusively honey-producers, are replaced it may be of more value to bee-keepers, but we doubt it. There has recently been some objection raised against bee-supply dealers, bee-paper editors, etc., occupying elective positions in the National, though these have contributed as much as any to its success. There are mighty few of its members who make their living solely from honey-production—not one in ten. So it would seem that it ill becomes any one to complain because there are a few honest people aside from the specialists who fill official positions in the National. Personally, we are exceedingly well satisfied to be an humble member in the ranks, and there do what we can to help on any good work the National may undertake. We are not seeking official position, and have never done so, either in a bee-keepers' organization or elsewhere. We always find plenty to do no matter where we are.

Contributed Special Articles

Honey-Plants—Fruits in Germany, Etc.

BY PROF. A. J. COOK.

It has been suggested that a very interesting chapter might be written on honey-plants, and that I give the readers of the American Bee Journal a taste of such fare.

The old philosophy was to the effect that the sweet perfume and bright, brilliant coloring of flowers was for man's delectation, while to-day we hear the positive affirmation that they are solely to attract bees and other nectar-loving insects, so that the blossoms may be cross-pollinated. I can but believe that there is over and above us a great, loving Father. Who may not say that He had in loving thought both of the above purposes, when he touched the flower with a potency that secreted the nectar drop, and brushed it with pink or gold; and who shall say that both were not master strokes? and who shall not say that the ministry to man's love of beauty is not the better of the two purposes?

Without doubt the fragrance of flowers, and the flame of bloom, in window and woodland, are to attract bees, etc., to the nectar drop. Some flowers, like cleome, and willow-herb, are wondrous in their flash of color, while others, like figwort, are very inconspicuous, but very fragrant. The first attract through the color sense; the others through scent.

There are many plants, often entire families, that have what botanists style irregular flowers. In these the petals or show portions of the flowers are very different in size and form, and may be even in color. The larkspur, and columbine in the butter-cup family, as also the entire families of mints, and the snap-dragons, will call to mind such irregular flowers. These flowers are thought to have changed to these curious shapes to effect more surely cross-pollination. A close study of such flowers will soon convince any one that they serve such purpose most surely and admirably.

The orchids are marvelous for their modifications to this end. Indeed, there are no more attractive or wonderful flowers known than these orchids. The Berlin people love flowers, if we may judge by the large and numerous shops where they are kept in abundance. Of these gems of nature none appeals more to the lovers of beauty than these lovely orchids. All of the clover or bean family show conspicuously this feature of irregular flowers. It goes without saying that all such flowers must be cross-pollinated, and for productivity all such flowers must have the kind ministry of sweet-loving insects. Bees, of course, are by far the most important insects that engage in this work, and among bees the honey-bees are by far the most numerous, and correspondingly the most important.

I suggest that the reader select a columbine, a touch-me-not, or a bean-blossom, that he may carefully observe this peculiarity, and note how it works towards cross-pollination. The touch-me-nots or snap-dragons are specially valuable for such study. These plants belong to the great and important order Scrophulariaceæ. These plants, like the mints are known as bi-labiates, as the flowers are made up of two lips, though the normal or real number of petals is usually five. These lips surmount a throat which is more or less open. The flowers usually nod or incline to one side, and the stamens, which bear pollen, as also the pistil, which is to receive the pollen, lie in the throat on the upper side. The nectar drop is deep in the flower-tube. The bee alights on the lower lip and pushes in through the narrow throat to reach the distant nectar. Now it happens, or rather is true, that the stamens and pistil are not ripe at the same time. In other words, when the pollen is ripe for use in a blossom the stigna is not yet ripe to receive it. Thus, as has been aptly said, the bees must act as "marriage-priests" to carry the pollen from one blossom to another.

In a wild, yellow snap-dragon, of Michigan, the pollen is white. One season, years ago, I discovered one day that all the bees were like Hereford cattle—each as it entered the hive had a conspicuous white line the whole length of its back. I followed them to a place in a wood-lot not far off where they were gathering from the snap-dragons. Thus the white line was explained. There are many of these plants in California. While the white and black or ball sage, of California, like all the mints belong to the labiate family—Labiatæ— they are much like the snap-dragons.

The blossoms of the Legumes—beans, peas and clovers—are somewhat similar to the above. Here is one large petal, called the "banner," two narrower ones on the sides—the wings; and two others, narrow and close together, which enclose the stamens and pistil. These are together called the "keel." In effect these are the same as the above. It is well-known that such plants must have insects to visit the bloom or no seeds will be formed. Red clover produces no seed the first crop, because it is often only pollinated by bumble-bees, which are not numerous early in the season. Alfalfa, which is visited freely by the honey-bees, which are always numerous, will seed at any time. While many regular flowers, like the apple, pear, etc., require cross-pollination, this is not always the case; while, with these irregular flowers, we must always have insect visits to secure full seed-production. It is probably true that in all cases where nectar is present, especially if abundant, as in the linden and tulip, that cross-pollination is requisite to seed-production. In basswood we know the nectar is very abundant.

America to the Front.

We are more impressed each day of our stay in Europe with the superiority of America to even the best portions of the old world. Food here is very much more expensive. Meat and fruit are very high-priced. And yet wages are much less than in America. It would seem that the common laboring class here could have only meat and fruit as rare luxuries, while even the bread loaf for the poor is dark and solid. Potatoes not larger than cherries or plums are common in the market, and sold here in Berlin for ¾ cent per pound, or 45 cents per bushel. Potatoes are the cheapest food we can buy, though they are so small that no one would buy them at home. Apples are usually from 8 to 10 cents a pound, and often much more. We can get very nice dried pears here for 20 cents per pound. The best we have purchased come from California.

Rains in California.

I hear glad news from California. The rains the present season have been copious. At Claremont they have had over 3 inches, while a year ago at the same date there was less than 1 inch. As is well-known, we have had little rainfall the last 10 or 12 years; the same time before that was characterized by a much heavier rainfall. It is thought by many that we will now have another period of generous rainfall. Last year we had a fine rain record—the best for years. We hope a better is to be ours the present season.

Last year was excellent in its promise for honey, though the season was, on the whole, disappointing. The reason was that it was cold and windy in May and June. We may reasonably hope that the present year will give us rain, warmth, and then we shall surely be favored with a good honey harvest.

Berlin, Germany, Jan. 9.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

6—Dadant Methods of Honey-Production

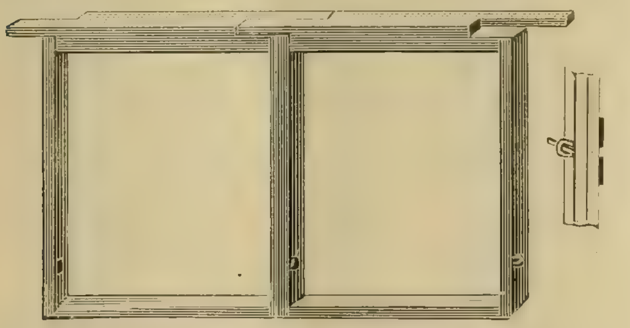
BY C. P. DADANT.

BEFORE I leave the subjects of making artificial divisions and of queen-rearing, I wish to mention something which has a bearing on both questions.

With the new method of queen-rearing, the Doolittle method, with its different improvements made by queen-breeders, the apiarists have devised baby nuclei, in which they hive only about 200 bees, and which are intended to be used as a receptacle, or rather a home, for young queens until they are impregnated. Much opposition is made to the use of these nuclei, which often prove inadequate. I believe the greater part of the fault found is true, and I see that there is a tendency to make larger nuclei. This is right.

I would now suggest a method which we formerly used, and which would enable the queen-breeder to save those nuclei which turn out to be the best, for artificial increase. It is by using a divisible frame such as we have described in "Langstroth Revised," and which was devised by my father about 1870. He introduced it into Italy, on his trip to that country in 1872.

The frame is made in two separate sections which join together with a staple to form a frame of regular size. A certain number of these frames are made and inserted in different hives—populous colonies. If it is desirable to use them promptly, worker-comb may be transferred into them, and if they are given in the center of strong colonies, they will soon be filled with brood. Otherwise they may be built up with foundation and given to the colonies during the spring months. Small hives, in which these combs will fit, are built at the same time and are used for nuclei. These, of course, are more expensive than the baby nuclei now used, but they are also very much better.



The advantage of these hives is that you can build nuclei out of good combs with brood in them. One ordinary frame, when divided, will make two combs, side by side, in one of these small hives. If two ordinary combs are taken, a nucleus can be formed of them that will have 4 combs of half length, and the nucleus is as good as anybody can wish. If the young queens are reared for sale, but are not sold at once, many of them will breed, and these small colonies will build up so as to make fairly strong ones before the summer is over. So, with this method, which is certainly more expensive than that of the baby nuclei, you can rear better queens, and in case they are not sold you may be able to make quite an increase in your apiary.

Many of our colonies in early times were built in this manner: Whenever the small colony filled its hive, which was made for 8 halves, or 4 full combs, we would transfer it into a larger hive, by uniting the half combs together and would build it up with combs of brood from other colonies. Nuclei that were not wanted, at the end of the season would be redistributed among the different colonies, and there was no loss either of bees or combs. The empty nucleus hives were put away to be used again the following season.

This was intensive bee-culture, and lasted only as long as we were desirous of increasing our colonies in number. In an apiary where it is desired to rear queens for sale, and good queens only are wanted, the Langstroth frame could be divided into three parts, each frame adjustable to any other part. The trouble with our top-bars was that we must get the two parts of a pair together, or we were unable to adjust them. With this top-bar, used by the Swiss apiarists and described in the French edition of "Langstroth on the Honey-Bee," any section of frame may be joined with any other section, when they are put back together at the end of the season.

The success of queen-rearing depends, of course, on the methods, but it depends much more on the energy and perseverance of the apiarist. I do not believe that there is a single pursuit that requires more persistent attention and more vigilance than this one. I am satisfied that there is more profit in rearing bees for honey than in rearing queens for sale. At the same time, it is well for the energetic apiarist, who can devote enough time to it, to rear the queens that he wishes to use, in his own apiary. We have never bought as good queens for honey-production as we were able to rear in our own apiaries. I believe, also, that it is a good plan to make exchanges of breeding queens from one apiary to another to prevent a too-continued in-and-in breeding.

Since writing the above, I have received, from the Department of Agriculture, Bulletin No. 55, of the Bureau of Entomology, on "The Rearing of Queen-Bees, by E. F. Phillips." In this is an engraving of a Langstroth frame divided into three parts, devised by Mr. Benton. From the cut, I judge that when the frame is divided, each section is provided with an added top-bar, and hung in the box with the long way horizontal instead of vertical, as we do it. This Bulletin is very interesting, and we trust it may be sent broadcast among the bee-keepers. Hamilton, Ill.

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Among the Bees in the Spring

BY G. M. DOOLITTLE.

THE warmth of spring will soon be here, which brings life and activity to the bees. This condition of things will arouse us to action, and a feeling will steal over us to see how great the amount of fun and cash can be gotten out of our bees by dint of hard work and untiring energy, which feeling, if rightly used, will tend greatly to make the days in heat and sun more easily endured, and such as will be looked back upon as days of pleasure. As a little help along the line of the right use of our energies, I thought a few words under the above heading, would not be amiss with many of the readers of our beloved American Bee Journal.

The first thing to be done in the spring is to get each hive or colony in as good shape as possible for the comfort and prosperity of the bees. As soon as spring fairly opens I go over all the hives in the apiary, and, to do this intelligently, I begin on one side of the yard and open the first hive. If the bees have wintered well I may find that the colony has brood in three or four combs, while the sealed honey along the top-bars of the frames, and more still in the combs next the outside of the hive, tells me that they have an abundance of stores, so that all this colony needs is to see that the hive is made as tight and comfortable as possible, except the entrance, which should be about 3 inches long by 3/8 deep. When thus fixed a little stone is placed on top in the center of the cover, which tells me that the colony is a good one and needs no further looking after till the fruit-trees bloom.

The next 2 or 3 colonies prove about the same as the first, so are fixed and marked the same. The fouth or fifth colony may prove to be only a fair one, with some dead bees on the bottom-board, which are either removed or a clean board substituted. As they have brood in 2 or 3 combs, they are treated similarly to the first, except that a frame of honey is placed on either side of the brood, as such colonies are apt to get short of stores, or a cold snap may come to keep them from going to the outside of the hive where their honey is the most liable to be. Then, such a colony does not have the number of bees to go to the fields to secure the little early honey there may be, as do the stronger ones in bees, so it is always best to make sure that all will have honey enough, and that close to the brood, to last till the bloom from fruit-trees opens. The stone to mark this one is placed on front side of the cover, which says "fair."

As I pass along I find more good colonies, with now and then a fair one; or a poor colony may be found. When such an one appears on opening a hive, I will find it has brood in only 1 or 2 frames, and only small patches at that, while the little honey there is, is scattered throughout the hive. To fix such a colony best, I take the two frames having the brood in and set them near one side of the hive, and then take all the other combs, after brushing the bees off which may be straggling on them, to the bee-house. After getting 2 combs quite well filled with honey, which were left over from the previous season, I return with them, and place one each side of the 2 combs of brood, drawing all as near the side of the hive as is consistent with the necessary bee-space, after which a division-board is nicely adjusted to suit the requirements of the little colony, with a quilt carefully tucked about them on top, under the cover, and down the side of the division-board. The entrance of the hive is now regulated so that but one or two bees can pass at a time, and is so fixed that it comes beyond the division-board, thus shutting off the cool outside air, coming directly upon the bees, as well as enabling the little colony to protect itself much better from robber-bees. The stone to tell the condition of this colony is placed on back side of cover, telling that the colony in the hive is weak.

In this way I go over all the colonies in each row of hives in the apiary, putting each colony in the best possible condition, when they are left undisturbed till the opening of the fruit-bloom.

When the fruit-trees bloom, I again go over the bee-yard as before, so we will again commence with colony No. 1. After opening the hive, the first thing to do is to look for the queen to see if her wing is clipped. If I find her wing not clipped, the clipping is now done, as it is much easier to find queens for this purpose now than it will be later when the hive is more populous in bees.

Having clipped the queen, I now observe the brood, and if the colony has gotten along as it should, there will be brood in 7 or 8 combs, the center ones being nearly or quite full, while those on the outside are from half to two-thirds full. I now change this brood right around, that is, I place the outside frames of brood in the center, and the center frames on the outside. This causes the queen soon to fill those part filled outside combs, completely full of brood, while the combs filled full of brood, next the frames partly filled with honey, near the side walls to the hive, cause her to put eggs in them, or in every cell not occupied with honey, so that in a week or so every available cell is occupied with brood, and this in just the right time to produce the maximum amount of bees in time for the white clover honey harvest.

By this time the fair colonies may have nearly or quite caught up with the good ones, and if so they are treated the same. If not, the brood-nest is reversed the same as with the good ones, while a frame of honey is brought up on either side of the brood so as to make them feel "rich" in stores. This will cause them to remove this honey, feed the queen more abundantly, and she in turn fill the combs to completion with brood; and by the time the harvest arrives, such colonies will be not far behind the very best.

The brood in the weak ones is looked after, and if it is found all in one end of the frames, one or two are changed ends with, so as to cause the frames to be filled with brood, which have any in, and coax the queens to greater egg-laying. Two more frames of honey are put in, one on either side of the brood, which also adds "zest" to this little colony, which will soon be on the road to prosperity, so that all will be as nearly ready for the harvest as possible when it arrives.

This getting of the bees in the *right time* for the honey harvest counts more toward cash and fun in the apiary than all else, unless I have made a great mistake during the 38 years of my bee-keeping life. Borodino, N. Y.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

FORMALIN AND ITS TASTE ON COMBS.

I think little has been said hitherto about honey getting a disagreeable taste from combs previously treated with formalin. If such a capacity to give a bad taste really persists for years there is not much use of talking about formalin any more. Page 84.

ROGUES IN OTHER TRADES BESIDES QUEEN-TRADE.

Rogues are not all in the queen-trade. When the Worden grape came out it directly transpired that quite a proportion of men in that line would fill Worden orders with Concord vines—the great resemblance of the two varieties giving them a chance to deny things. (The Worden, however, is much more juicy, and 5 days earlier—but not so reliable to bear, and too tender of berry to carry to market.) Well, it seems that with our folks the fact that some Carniolans are banded is sufficient excuse for them to send any old striped thing when Carniolans are ordered. The commonness of such offences in this world doesn't make them any the less sad. If it's allowable to say a kindly word even for scoundrels, I would suggest that some of the not-on-time chaps *mean* to fill the order as directed when they spend your money, but fail of it, and are always so hard up that they can not return money when it's gone once. Their straits almost compel them to use money as soon as it arrives. Query: Which is better for these offenders, a little more vehemence of denunciation, or a little more remembrance of the fact that they, too, are human? Page 97.

CONCAVE CAPPING OF COMB HONEY.

I think any kind of bees will put on concave capping (deeply concaved capping) under certain circumstances. Given an expanse of comb in what was recently the brood-nest; let the cells be nearly full of honey, but not quite; surplus harvest suddenly over for the year, but about enough for daily food coming in for some time—with things in this shape I think they seldom empty part of the cells to fill the others. And apparently their preference is to have all honey sealed that's fit to seal in warm weather. In such a finishing-up job they will be pretty sure to use old wax for cappings—and may work so much propolis into it that it looks very queer; and you think you have something very abnormal when all is perfectly regular. Page 98.

BEE-KEEPING AND FRUIT-GROWING.

It is characteristic of Must-be's that they sting badly if not allowed to have their own way. My counsel would be: Don't try to entertain two Must-be's at once—as, for instance, these boxes of strawberries must be taken to market, and these swarms in the trees must be hived. J. E. Johnson, on page 99, almost ignores the above—and he must be our old friend "You"—got his speech bejoggled by too much hopping around.

Yes, indeed, a few thousand pear-trees to make the period of fruit-bloom 5 days longer is a royal help to a bee-locality. Peach orchard fully as good. You can see the honey in a peach-blossom, which you can not do with apple and pear blooms.

SHORT-LIVED QUEENS.

Here's "locality"—or something else that might perhaps yield profit if looked into. A 30-colony apiary has short-lived queens wholly—only 1 in 4 years living through 2 seasons, and she was very poor the second season. Why? Certainly not to be supposed that that is normal, and the current doctrine of queenly longevity a mistake. The locality is Minnesota, 170 miles west of Duluth. We have not heard that Manitoba and arctic Sweden have short-lived queens. Expectation would lean the other way. Warm localities with honey all the year (so the queen has no regular rest from rapid laying) have short-lived queens as a rule. As my everlasting guess must come in, I'll guess the solution lies in the strain of bees. Such mad-caps at swarming that they worry all their queens to death, trying to hurry the swarm idea into their heads. F. L. Day. Page 100.

SHADE AND SWARM-HOLDER—SWARMING.

Dead and dry cedars set in tiles for apiary shade, and also for swarms to cluster on. Thanks to Denis Nolan for an idea nearly or quite a novelty. If there were green trees or bushes at hand swarms would probably choose them; but if entirely remote from green growth the cedars are likely to be tip-top. It's an unusual situation, but if I had a home apiary, and my home was on a bare prairie, I think I'd try plants in little tubs mounted on posts. What plant would be best? Cherry or peach, willow or geranium or grape? Needs something healthy, with a powerful hold on life, and good foliage.

I was going to protest Mr. N.'s saying that too many colonies in one place increased desire to swarm. Was going to call that the exact opposite of the truth—overstocking one's locality a little the most reliable remedy for swarm fever that has been found yet. But on reflection I think he is right *sometimes*. The enthusiasm of rapid gathering postpones the swarming idea (provided said idea is not already started), and too many bees for the number of flowers might spoil the enthusiasm.

To explain the opposite dogma, let *pollen resources* be considerably overdrawn and nurse-bees can not get so vastly out of proportion to field-bees. The tendency of a proper balance between the different classes of workers is to mitigate swarming. Page 101.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

March Comes Like a Lion

March came in like a lion here. Before that time I thought the bees were in very good condition—no mold or excessive moisture about the hives, and the colonies were strong and healthy looking. I am wintering 60.

Comstock, Nebr., March 2. (Mrs.) A. L. Amos.

Cocoamel

This is a sort of chocolate with honey, made somewhat after the manner of honey and lozenges. After melting 1 part gelatine in 1 part water, add 10 parts warmed honey. When thoroughly mixed incorporate little by little 4 parts powdered cocoa. Take from the fire and flavor with vanilla, stirring thoroughly; then pour into oiled dishes. After 24 hours cut into tablets, and let dry in the shade 8 days. May be eaten as candy or used to make a hot drink.

"Glucose and Its Uses—The Honest Label"

Continuing the question as to whether the statements made in The Delineator, and quoted in this Journal on pages 213 and 214 are correct or not, it may be replied that in word every statement is correct, yet as probably understood by the readers the statements are so utterly misleading that it can hardly be believed that Mrs. Abel would have written them or The Delineator published them if both had had a full understanding of the case.

With a view to getting light on the glucose question from near-by sources, a leading grocer was asked by telephone whether Karo corn syrup was more or less popular than when first introduced. He replied that it was less popular, the cheaper grades of corn syrup, which appeared to be just as good, having taken its place. Another grocer was interviewed in person, and questioned in a little different form, the following conversation in substance taking place:

"How about the sale of corn syrup? Is it more or less popular than formerly?"

"Well, it's about all the syrup there is sold."

"At what price do you sell it?"

"We sell it mostly in these 10-pound cans at 35 cents a can. Here's the Karo in 2-pound cans, which we sell at 10 cents a can, but it doesn't sell so well as the other, although it is supposed to be of a better grade?"

"Do you use any of this corn syrup on your own table?"

The somewhat significant reply came promptly, "No; we use syrup made of sugar."

The effect of the State law as to pure foods was shown on the labels. On the Karo can it was stated in plain letters that 85 percent was glucose and 15 percent cane syrup. The larger can was 75 percent glucose and 25 percent cane. That seemed to show pretty plainly that the superiority of the Karo was all in the advertisement. There is only 3 pounds of cane in the Karo for every 5 pounds in the larger can, and yet the Karo is retailed at 5 cents a pound and the other at 3½ cents. Not ao much wonder that in States where the law enforces honest labels the popularity of Karo should fall off in spite of the thousands of dollars spent in advertising it as "better than honey for less money." But all this is by the way.

The druggist was then visited and asked, "What is the price of glucose?"

"We don't keep it."

"Haven't you price-lists that quote it?"

He consulted the price-lists, and then replied, "I can furnish it to you at about 20 cents a pound."

Now we begin to have some light on the matter. The glucose sold by the druggist is one thing; that sold by the grocer another. Chemicals are used in the manufacture of glucose, and getting rid of those chemicals is an expensive business, so that the druggist retails at 20 cents a pound that which is supposed to be cleansed of all objectionable matters. But leave it only partly cleansed—no matter if it be unfit to put into any human stomach—and the stuff can be produced so cheaply that a mixture of 1 part cane and 3 parts glucose, after all parts are added, can be sold at 3½ cents a pound.

Returning to the quotations from The Delineator, it seems pretty clear that Mrs. Abel must have had in mind the belief that chemically pure glucose and the commercial article, the glucose of the druggist and the glucose of the grocer, were one and the same thing. If all that is said of glucose as being harmless and containing no injurious substances refers to chemically pure glucose, then it is all right; but how many of the readers of that popular magazine will understand the statements to refer to anything else but the stuff that is sold at the grocery?

It is greatly to be desired that Mrs. Abel might go to a grocery and get a can of Karo, sample it a number of times, thoughtfully meditating upon its flavor and its aftertaste, take the remainder of the can to a reliable chemist for analysis, and then say to the readers of The Delineator what she thinks is "the truth about glucose."

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Wax-Rendering Processes

Now readers of the Farmers' Advocate are wishing "E. G. H." would come out and show himself (or herself). I am sure he does not need to be ashamed, for he gives us some good things frequently. For example, in an article on "Rendering Beeswax," he recommends using the most approved machinery and doing the work up as cleanly and expeditiously as possible. That article is followed up by one on "Running a Wax-Press," which fairly smells of hot beeswax—it has so many little kinks which only actual experience will bring out. It is worth quoting in full:

RUNNING A WAX-PRESS.

There are some things about the operation of a wax-press that do not appear very often in print, and a few words on the subject may help some readers who are operating one of these machines for the first time, or who have just been trying to, and have not obtained as good results as they should have. The writer had considerable trouble the first time or two, caused by the wax "freezing" before it ran out of the press, and clogging up everything, so that it had to be cleaned up with boiling water before the work could be continued; and this is the trouble which causes many people to condemn this method of rendering wax. Now, the fault is not in the machine at all, but in the conditions under which it is worked.

In the first place, it must be borne in mind that wax will stick to wood, or anything else that is dry, and that it will not stick to a wet or damp surface. In the second place, get acquainted with the fact wax will "freeze" when it strikes a cold object, or when a cold current of air strikes it, and that it will not freeze so long as it is hot. These two facts are known by nearly every one who has anything to do with beeswax, and yet it is because conditions are not as they should be that the wax-press gets bunged up and makes trouble.

To have everything run fast and smoothly, it is necessary to have the room where the work is being done very warm. A temperature of 85 or 90 degrees will do away with most of the trouble from "freezing." The press should be in a warm room for a couple of hours before commencing operations, so that every part of it may become thoroughly warmed up. Take out the follower and the slatted bottom, and stand everything up so the warm air of the room can get all around it, and it will warm up much more quickly. Just before putting in the first "go" of melted wax, have ready a kettle of boiling water, put the press all together, with the bottom and follower in place, and the burlap to hold the melted combs between them, plug up the spout of the pan, and then pour your boiling water slowly into the press. Don't forget to give the corners their share, and let it stand long enough for everything to get thoroughly hot and wet. Now let out the water, and remove the follower, open up the burlap, dip in the melted combs (you will soon learn how much you can handle at a time), fold the burlap over the wax, put in the follower, and screw it down slowly. Be sure the screw presses fairly in the middle of the follower, or it will not press evenly. When it is down nearly as far as you can turn it, and you think all the wax is out, ease it up a little, and then turn it down as far as it will go. Give it time to run out; then turn it down some more, and give it more time to run out. You will be surprised how much wax will come out after you think it must be all out. Don' be afraid of breaking the machine, but squeeze it down for all you are worth. If it bursts, get a new one—stronger.

When you can not persuade any more wax to come out, release the screw, take out the follower, remove the burlap, and dump the refuse (and burn your fingers, until you discover how hot it is). Then repeat the process until you are done. Have the boiler for melting the combs on the stove boiling, and have a kettle of water boiling to replace what is dipped out with the boiling wax; and have a pail of cold water handy in case your boiler takes a notion to boil over; and have a few dozen old newspapers spread around on the floor; and have your press right up close to the stove for convenience; and have a tap in the vessel into which the wax and water from the press flow, so that the water may be drawn off as the vessel fills up.

When you have finished, run some boiling water through the press to remove any little bits of wax that may be in it.

It is generally advisable to melt the wax again after it comes from the press to get it into a solid, clean cake before selling it, or sending it away to be made up into comb foundation. To prevent wax cracking when cooling, wrap an old piece of carpet, or something, around and over the vessel to make it cool as slowly as possible. It is cooling too rapidly that causes it to crack.—E. G. H.

Bees an Interesting Subject—Swarming Habit

Reading agricultural exchanges has this broadening effect—that it introduces one to writers on bees not often met in the strictly bee-keeping periodicals. Sometimes they hide behind initials—and wisely so. Then, again, they come out boldly.

F. G. Herman, in the Agricultural Epitomist, says:

The subject of bees has always been of great interest to me, not only because I started in the business of honey-producing several years ago, and learned from so many different sources that the bee-industry is not so well understood as other branches of farming, consequently there is a lack of this necessary knowledge, and the investments usually made in bees are not profitable. When we undertake such a business, even on a small scale, we should study it in its details, so as to be able to overcome difficulties. I think the reader will agree with me that where any special line of farming, whether it be horse-breeding, dairying, or sheep husbandry, is undertaken as a special pursuit on a large scale, it very often is a failure financially. I am not going to discuss why this is so, but that it is a fact no one can deny. True it is there are plenty who succeed in all these many branches, but they are exceptions to the general rule. With bees, unless it is undertaken first on a small scale and gradually increased, learning as we go and studying and planning, difficulties are sure to arise which are too hard to overcome.

Probably the thing most annoying to the bee-keeper is the swarming habit. If the bees did not persist in dividing their forces so frequently much more surplus honey could be obtained, and the bee-keeper himself would feel more easy about his bees. In producing comb honey in 1-pound boxes it is necessary actually to crowd the bees into the section-boxes, for they seem loath to begin work in such small divisions, and this crowding is one of the initiatives which creates the swarming fever. When producing extracted honey abundant room can be given, and the swarming impulse is greatly checked. Therefore, if bees are to be kept far from the house, and can not be given much attention, it is advisable to produce only extracted honey, which is done by giving the bees large combs and plenty of room, for it matters not whether the combs are entirely completed or not, as the honey is taken from them and the combs retained to be used again.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

More About Sweet Clover for the South

Before leaving the matter of sweet clover as a forage and honey-plant, I shall wish to ask for information concerning its growth and its value from those who have given it a trial, or have had experience with it in some way or other. I should be very glad to have reports from all who have grown sweet clover anywhere in the South. Who has succeeded with it, and who failed? How was it planted and grown, and on what kind of soil? How much was planted, and what about the yield? How was the honey as to color, flavor and body? Did stock eat the clover, green or as hay? Any and all such information will be greatly appreciated, and will help in getting up valuable information for our department, which should be an information bureau on just such topics.

Sweet Clover as a Forage and Honey-Plant

"We often see in the bee-papers writers stating that stock will not eat sweet clover. Such is not the case in Central Texas. A few years ago we procured sweet clover seed to scatter along the roadside so we could get it started growing for a honey-plant for our bees, and it came up to a good stand, and as soon as it grew large enough the stock kept it eaten down so close that it died. But where it was kept from the stock it grew to a fine growth, and makes a fine honey-plant."—Dr. C. S. Phillips, in The Apiarist.

Melilotus for Pasturage—Free Seed

As I have just run across a letter from Prof. W. J. Spillman, Agrostologist of the United States Department of Agriculture, on the subject of sweet clover, it will be reproduced herewith, as it contains some good points of information. He says:

"Doubtless many of your readers are more or less familiar with sweet clover, also called melilotus or Bokhara clover. This plant is a common weed over most of the eastern half of the United States, and is not uncommon on the Pacific Coast. It is generally reported that stock will not eat it either green or cured as hay, but on the black prairie soils of Alabama and Mississippi—soils which are practically identical with the black, waxy soils of Texas—melilotus is grown quite extensively, both as a pasture and hay crop and as a soil renovator, and it is quite highly prized in that section for all these purposes. Farmers there state that stock not accustomed to melilotus at first refuse to eat it, but when they once acquire a liking for it, they do very well upon it.

"The plant is a legume, very closely resembling alfalfa when it is young, and is undoubtedly a splendid soil-renovator. It is also exceedingly hardy. It has occurred to me that on account of its value on the black prairie soils of the Middle South, it is worth testing on the similar black, waxy soils of Texas. We are arranging to secure a quantity of seed, and will gladly send a package of seed of this plant to any of the readers who may be located on the black, waxy soil, who will agree to report to us the results of their test of it. We will send these seeds to applicants complying with these conditions as long as the supply lasts.

"Melilotus is a biennial. It may be sown either in spring or in fall. If sown in the spring it makes considerable growth that year, but does not head out. The next year it makes a very large growth, and makes seed in the fall of the year, unless it is cut for hay, and then dies root and branch. It is said to make very good pasture for hogs and other stock, and it makes a good yield of hay. Farmers should remember, however, what has has been said above about stock not liking it at first. Being a legume much like alfalfa and clover in many respects, it is probable that there would be some danger from bloat when pasturing cattle or sheep on melilotus."—W. J. Spillman, Agrostologist U. S. Department of Agriculture, Washington, D. C.

Spring Management of Bees

Perhaps at the beginning of the season we have all noticed the vigor of any colony that has its stores of honey and brood in a compact form—that is to say, a colony that has honey and brood in all combs occupied by the bees. Colonies in this condition may generally be depended upon to do far better work than others that are poorly supplied with honey. This will apply to the nucleus as well as to the powerful colony.

To get all colonies in this prime condition, the bee-keeper in most years will be forced to resort to feeding.

Naturally this brings forth the question of whether feeding is profitable or not. I think all, or nearly all, will agree that it does not pay to feed the colony that has wintered well and has enough to enable it to reach the flow.

Some even go so far as to say that all feeding is useless, and is time and money thrown away. This may be so if there is always an abundant flow of nectar, but should there be 3 or 4 months with little or nothing for the bees to gather, these same people will be found feeding their bees—that is, if they want to keep them alive.

It pays all the time to feed bees to keep them from starving, and if it pays to keep them alive, it will pay more to keep them in good condition. For the colony that goes through the season in poor condition will more than likely prove to be a failure, so far as gathering honey is concerned.

To make a profit on every colony of bees fed should be the object sought for. To do this the bee-keeper will have to exercise considerable judgment, and will have to take into consideration the condition of each colony to be fed.

Suppose, for example, we take 100 colonies at the beginning of the season. In going through these colonies we find 25 of them in prime condition. Fifty of them we find are only average. Twenty-five of them we find to be in very poor condition. The first 25, if fed at all, would be fed at a loss. The second 50 have bees enough to cover all their combs; so we feed them until all combs occupied by the bees are filled. This puts them in as good condition as the first 25. Thus we have 75 colonies in prime condition.

In the next 25 in poor condition we find some have bees enough to cover only half of their combs, while some have enough to cover only 2 combs. In preparing these for feeding we remove from every hive all combs the bees do not occupy; next, a division-board is placed close up to the combs and the bees that remain. The object in doing this is to force the bees to store the feed in as compact a form as possible. They are then fed as rapidly as they will take the feed until all empty cells are filled. The division-board is then removed, and the empty combs that were taken from them are replaced. In replacing the empty combs put them all to one side of the cluster.

Do not attempt to spread brood in these last colonies, but let them manage their own affairs, and if there is nectar in the fields they will soon make fine colonies for business. All colonies should be fed separately by the use of feeders, or some method suitable for feeding within the hive. For only in this way can we be sure that the feed will be placed exactly where it is needed. In this way I find feeding profitable; therefore, I always feed when necessary.

E. L. Bussey.

Cleburne, Tex.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

When to Do Spring Feeding

When will be the proper time to feed sugar syrup this spring, in Southern Missouri? Our bees are short of anything to eat just now. We are giving them candy; that is, part of them. I think all will need feed soon. I am afraid it is too cold to feed syrup yet. Our bees did not store enough honey for winter stores last fall. Missouri.

Answer.—There is little danger in feeding syrup any time now, as it is getting so late that there is no probability that the bees will be confined in the hive very long after being fed. But to be entirely on the safe side, keep the candy going till the weather is warm enough for the bees to fly nearly every day, and then give them a full feed of syrup.

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Italianizing Black Bees

1. I would like to Italianize some colonies of black bees in the spring, and thought the following plan might suit: Remove the queens from the colonies of black bees and give them a frame of brood from a colony of Italians. Will one frame of brood be sufficient for each colony of black bees?

2. As black queens are sometimes hard to find, how would it do to get the hive ready, put on an entrance-guard, shake the bees in front of the hive, and capture the black queen as she tries to enter?

3. About what time in the season should the work be done?

4. Can I take Italian brood something like 2 miles without danger of it being chilled and injured?

5. Will the frames of a 10-frame hive fit an 8-frame hive?

Virginia.

Answers.—1. If you mean that you will take away one frame of black brood, replacing it with a frame of Italian brood, there would not be any assurance of success, for with several frames of black brood to one of Italian, there would be several chances to get a young black queen to one of getting an Italian queen. If you take away all of the black brood, then you will be sure of an Italian queen, and one frame of brood will be sufficient for that purpose, only the colony would of course not be so strong afterward with so much brood removed.

You can manage, however, to get along without taking away so much brood. One way is to remove a black queen from its colony, and then swap all its frames of brood for those of an Italian colony. All the cells started would then be of Italian stock, and a week later you could take away all but one or two of the sealed cells to be used elsewhere. Here's another way:

From an Italian colony take 2 or 3 of its central combs (giving them to some other colony), and replace with frames containing only small starters. A week later you will find these frames partly filled with fresh-built comb containing eggs and brood. Put one of these frames in the center of a black colony from which the queen has been removed. The bees will be pretty sure to start a number of cells on this new and tender comb, to the neglect of the others, and a week later you can use these cells as you wish; or, if you prefer, you can leave them where they are at the disposal of the bees. In the latter case, however, you should make sure against any chance by opening the hive 4 or 5 days after giving the brood, and destroying any cell that might be found on the black brood.

2. That will be all right.

3. Not till bees are doing good work at gathering.

4. Yes, in summer weather. Even in rather cool weather you can do it by wrapping a frame in blankets previously warmed.

5. All 10-frame hives have not the same frames, neither have all 8-frame hives. But take 2 hives alike as to everything except size, as for instance dovetailed hives, and the frames of the 10-frame hive are the same as the frames of an 8-frame hive.

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Feeding Honey from Dead Colonies

Two years ago I bought 2 colonies of bees, and the first year they increased to 5 colonies. I lost 1 colony the spring of 1905, and last fall I had 6 put away in good condition with plenty of honey for winter, of which I just now lost one colony. I examined the hive and found the honey somewhat watery, running a little out of the hive. What is the cause of this? Can I feed the honey if other bees clean out the comb? Indiana.

Answer.—If you had examined closely you might have found that it was mostly water that was running out of the hive. Water may be found running out of a hive containing a colony in good condition, the vapor from the bees settling on the cold walls of the hive as water, and running out of the entrance. It may also settle on the unsealed honey in the combs, making the honey thin, sometimes so thin as to run out. There is nothing unusual in all this, and you need not fear to feed this honey to the bees when the weather gets warm.

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Keeping Queens a Few Days—Dequeened Colonies—Stimulative Spring Feeding—Age of Nectar-Yielding Basswood Trees

1. What is the best way in which to keep one or more queens a few days—a week or more—to be used to requeen other colonies?

2. I see different bee-keepers advocate leaving colonies queenless for 4 or 5 days after returning them to their old hive by destroying or caging the queen (in the production of comb honey), thereby stopping further swarming. Will not the bees rear another queen during that time of their own accord? If so, how can it be prevented?

3. What would be the best way to introduce a queen into a colony after their being queenless as above described?

4. What is the safest and best plan to pursue in stimulating brood-rearing in weak colonies in the spring, and how long before the honey-flow should one commence?

5. How old does a basswood-tree usually get before it yields nectar? Wisconsin.

Answers.—1. In a nucleus if to be kept a considerable time. If only for a week or so, she will be all right in a provisioned queen-cage in any full colony.

2. If I understand you correctly, you mean that when a prime swarm issues the queen is removed, the swarm returned, and the colony left queenless 4 or 5 days. I wonder if you haven't got that a little mixed. Most surely that would seldom stop further swarming, for when the prime swarm issues there will be generally several sealed queen-cells present, and a swarm will issue with the first virgin that emerges. To prevent further swarming destroy all cells but one 6 or 7 days after the issuing of the prime swarm. Still better, go to the hive 6 or 7 days after swarming, in the still evening, and listen for the piping of the young queen, listening each evening until you do hear her. Then go the next morning and destroy *all* cells remaining.

3. At the time of destroying all queen-cells, give the queen in a provisioned queen-cage, allowing the bees to release her. A surer plan will be to give the caged queen earlier, either as soon as the old queen is removed, or any time within a week after the removal of the old queen, only have the cage so the bees can not eat into the candy to release her. Then at the time of destroying the cells uncover the candy so the bees can get at it to release the queen.

4. In your locality probably the safest and best thing is to see that the bees have abundance of provisions, and let them entirely alone, for more harm than good may be done by frequent feeding in catchy weather. But in localities where there is nice warm weather for bees to fly, and nothing to get for a week or more, then it may be a good thing to feed a pound or so every other day.

5. I don't know; perhaps about 10 years if it comes from the seed, but 4 or 5 if sprouts spring up from a stump.

The Premiums we offer are all well worth working for. Look at them in this copy of the American Bee Journal.

Convention Proceedings

Report of the Wisconsin State Convention

BY HARRY LATHROP.

[Continued on page 218.]

Mr. H. H. Moe read a very good paper on

STUDIES IN BEE-NATURE

A writer on the subject of bee-culture in the Wisconsin Farmer states as fact that bees deposit from the point of the sting a drop of poison into honey-cells just before sealing—this for the purpose of preserving the honey. In view of this it is nothing strange that some people are prejudiced against the finest of all health-foods. Even bee-keepers I have known to be as ignorant as to suppose the pollen carried by the bees was what they built the wax out of. These thoughts started this paper.

All training, and particularly educational training, has for its aim some development. Especially interesting is the development of the eyes and ears. The organs of seeing and hearing are two of the most important by which we are in communication with this world. It has been the writer's special privilege to spend many profitable years in school, both as a student and a teacher. Honey has always had an attraction for me, ever since I can remember, and I am sure I have not as yet lost my "honey-tooth," nor need I add that the dollars and cents are undervalued by me, any more than the average of us. But what I wanted to emphasize is the value and interest of *Nature study*. In this line bee-keeping furnishes a most interesting field. I well remember in my younger days, how, after a little study of botany, a wholly new world seemed to open up. Likewise, bee-study has brought me in contact with some of the most wonderful and interesting things in this wonderful world in which we are living. Possibly some may here draw a heavy sigh, intimating that this is of no interest as it is not concerned with how to make more dollars and cents. Permit me here to digress sufficiently to show how it may mean dollars and cents.

For instance, a neighboring bee-keeper, perhaps as successful as the average bee-keeper, had read somewhere that the average life of the worker-bee, during the busy season, was only 6 weeks. The question he propounded to me was: "Is this really so?" The *intelligent* bee-keeper will readily see how it must be exceedingly difficult for such a bee-keeper to make intelligent preparation and management for a honey harvest.

Again, last summer a gentleman who has kept bees a good many years wished to know how to prevent swarming. He said he wished to try a plan given him by a bee-keeper who recommended it as working very successfully. This man said he was advised to "kill all the queens," whatever this meant, that were issuing with a swarm. A few questions elicited the fact that this gentleman was most blissfully ignorant of the life history of the queen-bee or the worker-bee.

Such bee-keepers can, and do, follow simple rules for bee-keepers as laid down in all of our books and periodicals on bee-keeping. Such a mechanical process may be successful enough, but it does not belong to that intelligent class of bee-keepers for which I am pleading. But he who has not seen the beauty of structure in our "pets" has not as yet become interested in one of the most interesting and beautiful phases of apiculture.

That this subject is important must further appear from the statement of the case, as, in a measure, presented by our inimitable ex-Gov. Hoard. The argument came to me with much force, as I live in an important dairy district. Some one asked him if brains were necessary to milking? If one could turn one's brains out to milk? Promptly the gentleman replied that he had never seen any milking done without the use of brains.

It is because of the value of brains that I have selected this subject. Bee-keeping is most excellent for the cultivation of sharp eyes and a keen hearing. In bee-keeping it is important to cultivate hearing and seeing. The angry hum of the bee, as contrasted with the musical call, so to speak, upon a swarm entering a new hive; the peep of the queen, etc., must be familiar to all bee-keepers who have had some experience. The beautiful and wonderful structures revealed by a microscope are such that they must be seen to be appreciated. [Here some illustrations and verbal descriptions were given.] After this you will be prepared to take up some of the most wonderful facts and theories found anywhere in natural history.

What is the value of all this? Some time ago I saw a copy of a famous painting. The original had been sold for a fabulous sum. I looked! I wondered. I could see nothing. I was looking at a copy of Millet's "Angelus." Two simple and hard-working persons. A common every-day rural scene. A very, very common every-day sight. But 'ere I left, a beautiful thought dawned. In a busy life, a few minutes of rest. A few moments to think of something higher. A few moments for a higher life. What a wonderful thought! What beauty! The Twenty-third Psalm is simple—very simple! Yet a great king constructed no work grander. Nothing more beautiful; no monument ever constructed more grand or enduring. This would be more fully appreciated by seeing some of the beauties and wonders revealed by the microscope. (Interesting work for "long winter evenings," so as to get acquainted with the bee.) You will discover that truth is "stranger than fiction," and be impressed with the idea so forcibly put by Shakespeare: "There are more wonders in heaven and earth (and me) than were ever dreamed of."

And what of the result? Get acquainted with your fellow bee-keepers and you will, as a rule, notice a clean, intelligent class of men, much superior, in my way of thinking, to what one generally meets with. It is well-known how one's occupation influences one, and leaves its characteristics upon one's individuality. Contrast, if you will, the burly and besotted saloon-keeper, void of all soul and intelligence, with the clean and intelligent bee-keeper, and there can be no question as to the profession we ought to choose.

I think it was Dr. C. C. Miller who, in answer to a question, advised one to "live with his bees." This is a good suggestion. You will solve many hard problems, and unravel many wonderful mysteries by so doing. In addition you will come to love your profession and enjoy your work. Those who have read G. M. Doolittle's "Scientific Queen-Rearing" will remember that it was by "lying awake nights," as he puts it, that the interesting and wonderful principles underlying queen-rearing were evolved. [Dr. Bigelow and Prof. Cook's work were here spoken of, bee-books discussed, and bee-exhibits mentioned.] H. H. Moe.

CHOOSING A LOCATION

To many, about the only thought considered in choosing a location would be that of a sunny spot on the south side of a hill. But a much broader view of the matter should be considered in order to insure enjoyment in our work and financial success. Therefore, it is of the greatest importance that the man who engages in the business of bee-keeping considers well all points bearing upon this first step, that no unpleasantness may afterward arise which might make his occupation unenjoyable or unprofitable.

It would be well for him to go to an apiarist of say 20 to 40 years' experience in keeping bees in different localities and under varying conditions—one who has maintained out-apiaries, and produced both comb and extracted honey, and practised outdoor and cellar wintering, and counsel with him in regard to the matter.

I am writing from the standpoint of one who wishes to build up a home market for his product by retailing his honey from house to house at regular intervals, and at a living price; in other words, one who intends to get out of the business all the enjoyment and money there is in it for him. Such an one will have two or three questions to settle, of a different nature than the man who intends to ship all his product. Of course, his first question will be—

1. Is it a honey-producing locality? Take plenty of time to decide this. I would choose a place where there is more than one kind of pasturage to depend upon. Maple, willows and orchards are desirable in spring, with clover and basswood following, and heartsease and buckwheat for the fall flow. Then I would be quite sure of something each year. It would not be a bad plan to test the prospective place by placing a half-dozen colonies there two or three years, and note results.

2. Is the field already occupied by other bee-keepers? If it is, another apiary might overstock the place so that neither would make anything; and if there is evidence that it is not overstocked, we should at least have a friendly

talk with any who may have bees there, to learn if our coming would be congenial to him, for we should observe the Golden Rule in this as well as in other matters.

3. Are the people being supplied with honey? And if so, at what price—wholesale or retail? If they are selling to their neighbors for the same price that they could get were they to sell to the commission merchant or any large buyer, then it would be of little use to locate there, unless the bee-keepers could be gotten together, and a price and plan of work agreed upon the same as dairymen do.

4. Are they selling bees to their neighbors? I would not want them to produce their honey—I should want to sell honey to them; besides, there is more danger of disease when there are a lot of small bee-keepers who are, as a rule, not as careful as the specialist.

5. Is there any foul brood in the neighborhood? Though this one is not of as much importance as the other questions, to the one who knows how to handle it should it appear.

6. Can I find a desirable spot upon which to locate my apiary? Very much more depends upon this than many are aware, which often explains the secret of one man getting better crops than his near neighbor.

The apiary should be located on a level with, or below, a good portion of the surrounding country, that the heavily laden bee may have an easy flight homeward, and, if possible, in a direction from your home (if it is an out-yard) having a good road leading to it. Avoid a windy place.

The advice usually given is to locate near water, but experience has taught me that judgment should be exercised in this matter. I have at the present time two apiaries located on the banks of the Wisconsin River—one at Portage, which is about 20 rods, and the other 8 miles south and 10 rods distant from the river, which is quite wide at both places, and I am sure that many times, when the bees have been crossing the river on windy days large numbers of them have been blown into the water and lost. Fishermen have told me that a mile below one of these yards they have seen hundreds of dead bees floating on the water, and if such numbers are observed at such a distance from the yard, there is no telling what the loss may be. So it is best not to locate too near such a body of water. My other yard is located near the Baraboo River, in a timbered, hilly place, well protected from wind, and I am sure no bees are lost there. I have had apiaries protected from all quarters, and those not protected at all, and my choice is a spot on a north slope, well protected from all other sides. A yard so placed is out of the reach of the prevailing south winds of summer.

Many times I have driven 7 miles to an out-yard, starting on a beautiful, still morning, and when I had worked but a short time the wind was blowing at such a rate from the south that I could not work without a wind-break, and sometimes not then. Although this yard was on a south slope, and in a good clover country, I had to move it, for the wind not only caused me much loss of time, but the bees did not do well there.

My yards are now on north slopes, and the wind can blow a gale from any quarter and still I can work opening hives, and no shade is needed for hives that are painted white.

I believe that in most townships a place can be found where bees may be kept at a profit, if rightly managed, and having found a place with all conditions as satisfactory as desired, buy an acre or two, if possible, and if you can't, rent it; place a telephone in a box attached to a post in the center of the yard, especially if you employ help—go to work, be hopeful, make money, do good with your money, and be happy. A. C. ALLEN.

(Continued next week.)

Reports and Experiences

Bees Wintering Well

Bees are wintering well—10 colonies all right. Prospects are good for another year.
JAMES H. FISHER.
Cementon, Pa., March 5.

Wintering Quietly

Bees are wintering quietly in the cellar, but the condition of the floor seems to indicate that there were a larger number of old bees than usual with which to commence the winter. R. B. ROSS, JR.
Montreal, Que., March 5.

A Long Honey-Comb—Wintering Well

I noticed on page 138, an account of the night-working bees in the jungles of India, and how long and wide they make their combs. That is nothing to brag of, for we can beat that right out here in Colorado. I do not mean the night-working bees, but the long combs.

I took a swarm of bees out of a house for a friend of mine 2 years ago, and I found one continuous comb 9½ feet long by 12 to 14 inches wide, and it was perfectly straight and smooth on the front side, not a spur or brace-comb attached to it, and it was all sealed or capped over from the top down to within about 2 feet of the floor; that had some brood in it! I was very sorry afterward that I did not have a photograph taken of it, for it was a very beautiful sight to behold. Who can beat it? I got 2 wash-tubs of honey out of it and what was n behind, and 2 large swarms of bees—at least I made 2 out of it, for I think there was a wash-tubful of bees altogether. Behind the front comb I found one comb 5 feet long full of brood.

Bees have wintered well in this section as far as I know. My bees did not make expenses last year, which was the poorest season that was ever known in this part of the State. Two years ago I had colonies that stored $25 worth of honey each. The honey-flow was so great that they just kept me busy piling on supers in order to keep them at work. It was a grand sight to see the busy little workers tumbling in and out of the hive.

I used to keep bees and supplies at Jerseyville, Ill., but I am now located out here amongst the alfalfa fields of Western Colorado, and I think this is one of the finest climates in the world. E. S. ARMSTRONG.
Olathe, Colo., Feb. 22.

Bees Carry Eggs

Mr. Diefendorf, on page 165, asks for proof that bees carry eggs. I have no proof to offer, for I have never seen a bee running around with a bone in her mouth, but I have evidence that is very convincing that bees do carry eggs.

One day I took a frame and the queen out of a strong colony and put it in a new hive. Then I took a frame out of a nucleus, where the queen was too young to lay. On the empty frame was a queen-cell about the center which was nicely polished, but had never been used. I put this frame in where the queen and bees were taken out, and in 6 days there was a queen-cell nearly ready to seal over.

I have often seen two eggs in a cell, but the extra bees are always removed before they hatch. I think the workers carry these eggs to other cells, though I have never seen it done. L. A. SMITH.
Columbia Falls, Mont.

Late Fall Feeding—Bees Working on Maple Sap

Last fall I bought 3 colonies of bees in box-hives. As near as I could tell, they seemed fairly strong in bees and very light in stores. I thought it too late to feed syrup, so with a brace and bit I cut out a hole 6 inches square in the covers. I made boxes about 6 inches high with the same outside dimensions as the top of the hives. I laid sticks across the holes in the hive-tops and placed cakes of candy over them. With a piece of old carpet I covered it up snugly. Over this I placed a piece of oil-cloth large enough to fold down and tie about the hive. Over this was placed the box weighted down with a stone.

I took a peep at them yesterday. One colony had finished their candy all but a little rim around the outside. I gave them some more and covered them up again. The others still had some candy left. I thought it would be safer to try to winter them thus than to transfer after it was too late to feed syrup.

All the bees were flying yesterday and working on the sap of the maple-trees, but to-day it is snowing and blowing. Many bees about here will perish this spring on account of lack of stores. FREEMAN DAVIS.
Center, Mo., Feb. 28.

Clover Seems to Be Injured

Bees seem to be wintering very nicely in the cellars thus far. We have had practically no snow here this winter, and that, with our many thaws followed by hard freezing, has injured the clover badly. But it may come out better than it looks now.
G. M. DOOLITTLE.
Borodino, N. Y., Feb. 28.

Feeding Iron-Rusted Honey—Queen-Eggs that Wouldn't Hatch

I noticed on page 137 a remedy given for bee-paralysis, of sulphur and molasses, and also to cleanse the blood. Now I have no fight to make on the treatment, but want to say that iron rust will not cleanse the blood. I have just tried that. I had some honey in a rusty can that had granulated, and I placed it in a vessel of water on the stove, liquefying it in the can, and all the loose rust mixed up in the honey. I fed it to the bees. The result was that it killed them at once. I could not believe that the honey containing rust was the cause at first, so I took honey from another can which had no rust, and fed the two side by side, and now I am sure that the honey containing the rust was the cause of the death of the bees. There was enough of the rust to cause the honey to be very dark. If any one else has had like experience, I would like to hear it, or if my conclusions are not correct, will some one please tell what was the cause?

A question for the sages: I have had in

my apiary 2 or 3 queens that were as fine layers as any, but not one egg would hatch, and I have moved frames of eggs to colonies where everything was perfectly reasonable for a hatch, but not an egg hatched. I know that the eggs of a queen that has never been permitted to mate will hatch, and so will laying-workers' eggs hatch, so why not these?

Berclair, Tex., Feb. 17. JOHN W. PHARR.

Why Did the Bees Die Off?

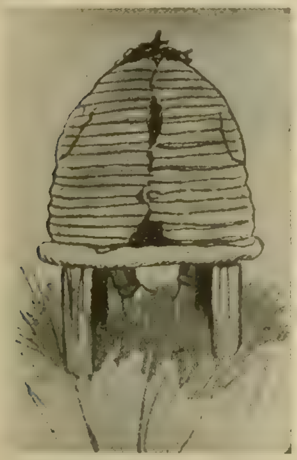
This has been a very mild winter so far; bees were gathering pollen in January from maple, I think, as it was in bloom, but there came a cold spell for a couple of weeks and stopped all work on the bees' part. Feb. 14 was very warm for that time of year, and when I came home at 5 p.m. the bees were rolling in the pollen; the next morning it was freezing, but to-day bees are working nicely.

Last season I carried 4 colonies out into the country about 8 miles to see how they would do. Two of them did nothing, and two stored 10 pounds of honey each. I brought them in in the fall, and the two that stored the honey commenced to die, and they keep it up. It seems to me that enough have died to depopulate the colony, but there are still bees in the hive working nicely. Why have those two died off so much more than the rest of the bees? The other colonies haven't died to amount to anything at all. I do not understand it. Any information will be appreciated.

I read the bee-papers with much interest. I can get more practical information out of them than I can out of any of the bee-books that I have. Still the books are all right. The index to the American Bee Journal is fine. The one in another bee-paper is not as plain as yours, but they are both all right.

W. C. EDGEWORTH.

Little Rock, Ark., Feb. 18.

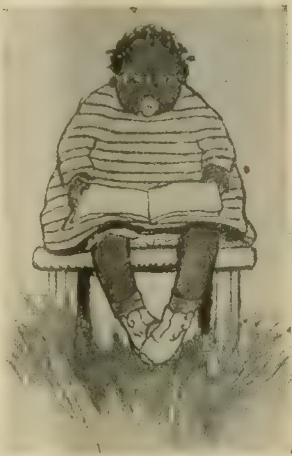


(Courtesy Epworth Herald.)

A Mistake.

Some people passed in back ob
me, a-talkin', ef yo' please;
I heerd one 'isper to her friend
"Is dat a hive fo' bees?"
I looked up from mah book right
then (it sut'nly struck me funny);
"Mah lan's!" I said, "I aint no
hive; I's jus a li'l' honey."

—St. Nicholas.



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OTISVILLE, PA., Jan. 18, 1904.

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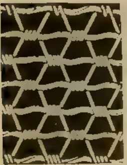

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1	" "	Melon			
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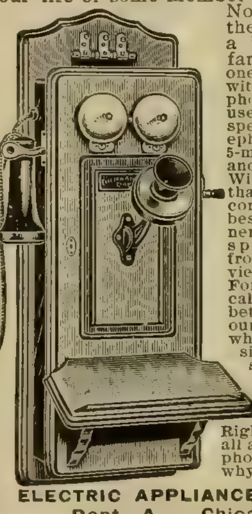

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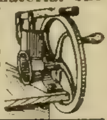
EGG MAKING



is a hen's natural work. Cut bone is the raw material she needs to make her lay an egg a day. A **CROWN BONE CUTTER** will prepare the food from scrap bones quickly, easily. Write for catalog—tells about the Crown. **Wilson Bros., Box 618, Easton, Pa.**

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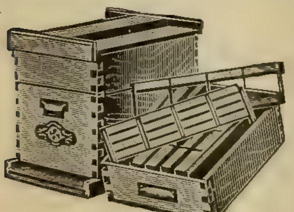

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The Fruit-Grower, published at St. Joseph, Mo., is an exceedingly handsome journal. The March issue consists of 64 pages, with beautiful cover design in two colors, and is the regular Gardening Annual of this publication. Prize gardening articles are submitted from various parts of the country, which cover the subject of the management of the home garden in a very effective manner. These articles are well illustrated. Another feature is an illustrated article on the subject of spraying fruit-trees, with suggestions for making and applying the spray mixtures needed in the spring. The illustrations show a number of spraying outfits, with mixing tanks, elevated platforms, etc. The paper is a credit to its publishers, and is full of live, fresh matter of value to every one interested in growing fruit or who desires to make the home garden more of a success.

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Honey and Beeswax

CHICAGO, March 7—Choice white comb honey is not plentiful, and it sells upon arrival at 15c per pound Other grades of comb are not in demand and sell at uncertain prices of 10@14c per pound. Choice white extracted, 6½@7½c; amber grades, 5½@6½c. Beeswax, 30c per pound.
R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
GRIGGS BROS.

INDIANAPOLIS, Feb. 2.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, Feb. 19.—The condition of the honey market is much more firm than it was a year ago at this time, with much less on the market. Usually at this time of the year bee-men wake up to realize that they may carry their honey over and send it to the market to be sold at any price rather than hold it. At the present time the market is fairly well cleaned up. We quote: Fancy white comb honey, 16@17c; amber, 13@14c; extracted white clover, 7@8c; amber, 6@7c. Beeswax firm.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, Feb. 19.—The demand is fairly good for better grades of white, and while the near by crop is fairly well cleaned up, new arrivals are now coming in from Cuba, besides several cars have been shipped on from California. We quote fancy white at 15c; No. 1, 13@14c; No. 2, 12c; amber, 11c; buckwheat, 10@11c. Extracted in fairly good demand, especially California, of which there is abundant supply. We quote white sage, 6½@7½c; light amber at 6@7c, according to quantity; buckwheat at 6c per pound; Southern at 50@60c per gallon, according to quality. Beeswax steady at 29@31c.
HILDRETH & SEGELKEN.

CINCINNATI, March 8.—The demand for comb honey has brightened considerably since we last reported; in all probability, by the close of April, the market will be bare of comb honey. This will be encouraging to the bee-keeper. Nevertheless, to advance the price is out of the question; therefore, we continue to quote fancy white comb honey at 14@15c. The demand for extracted honey does not come up to our expectations; we quote amber at from 5¼@6½c, according to the quality; fancy white, in 60-lb. cans, 8c. Choice bright, yellow beeswax, 30c.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, Feb. 19.—The supply of comb honey is fairly large, also extracted. We quote fancy No. 1 white 24-section honey at $3.00 per case; amber, $2.75. White extracted 6½c, and light amber 6c. Beeswax, 25@30c.
C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in clover, from 6½@7c. Bright yellow beeswax, 30c.
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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., MARCH 22, 1906 No. 12

PART OF APIARY OF A. K. FERRIS.

MR. A. K. FERRIS AT WORK.

(See page 251)

APIARY OF H A. DOTY, CENTER LAKE, MICH.
(See page 250)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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Contents of this Number

Illustrations—

Apiary of H. A. Doty 245
Ferris (A. K.) at Work 245
Hall, J. B. 255
Part of Apiary of A. K. Ferris 245

Editorial Notes and Comments—

Caucasian Bees—Something Favorable, ... 249
Concerning Caucasians—Characteristics and Markings 250
How About Your Bees' Stores? 249
Mild Winters and Locality 249
What and How to Feed Bees in Spring 249

Miscellaneous News Items—

Apiary of H. A. Doty 250

Contributed Special Articles—

Disinfecting Introducing Queens 252
Experience in Buying Queens 252
Full-Weight vs. Short-Weight Section Honey . 252
How Can We Rear Better Queens? 251
Methods of Feeding Bees 252
Odors Among Bees—Some Observations 253
Quick Queen-Finder 252

Mr. Hasty's Afterthoughts—

Apiarian Readers and Reading 254
Binding Volumes of Papers 253
Prolificness and Honey-Production 253
Somewhat High Bee-Keeping 253
Something More About "Mouses" 253

Southern Beedom—

What Line of Work Shall We Take Up? 254

Canadian Beedom—

J. B. Hall—One of Canada's Foremost Bee-Keepers 255

Our Sister Bee-Keepers—

Bees Wintered Well 256
Honey for Freckles and Liver Spots 256
Thinks She Wants Large Hives 256

Dr. Miller's Question-Box—

Drone Comb in Upper Hive-Stories 257
Drones and Brood in Hives in February 256
Formalin for Foul Brood 256
Increase by Dividing 257
Making Combined Comb-Guide and Starter 258
Sweet Clover 257
Temperature in Center of Winter Bee-Cluster 256
Use of the Bee's Sting 257
Wiring Frames With Starters Only 257

Reports and Experiences—

Fine Prospects for Honey 257
Good Prospects in Utah 257
He's "Agin" the Japanese 257
Indications for a Honey Crop 257
Not a Heavy Rainfal 257

Langstroth on the ✻✻✻ Honey-Bee

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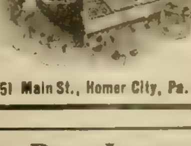

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Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor CHICAGO, ILL., MARCH 22, 1906 Vol. XLVI—No. 12

Editorial Notes and Comments

OUR TOIL DOTH SWEETEN OTHERS

Mild Winters and Locality

Jones says: "Last winter my bees used up an unusually small amount of stores, just as might be expected, for they always need the least stores in the mildest winters."

Smith says: "Last winter my bees drew heavily on stores, and I've always noticed that the warmer the winter the heavier the consumption of stores."

Jones is right; so is Smith. Jones lives far enough north so that the bees have very few winter flights, and even in the mildest winters they would be better off if they could fly oftener; so the amount of stores they need is measured by the amount of cold they must endure; the more cold the more fuel to keep them warm. Smith lives far enough south so the bees can always fly enough for their needs even in the severest winters. The winters always being mild, and the cold never severe, it doesn't take such a great deal of fuel to keep up the necessary heat, but when the bees get to flying it takes a good deal to make up the waste caused by so much motion, and so the milder the winters the more flying and the more stores used.

Just where is the line south of which Jones can not be found, and north of which Smith can not be found is a thing not easy to determine with accuracy; but taking the central and eastern part of the United States, it may probably be found somewhere between the 35th and the 40th parallel.

How About Your Bees' Stores?

"About this time of year," as the almanacs used to say, it becomes necessary to suggest to beginners, as well as to some others, that it would be a good thing to take an inventory of the bees' larders to see whether there is any danger of their running short. Especially in northern locations the thought is likely to be: "The severe cold is now letting up, it is warm enough for the bees to fly every day, and consumption of stores must be a good deal less than when it was cold enough to keep them in their hives all the time;" and it takes years to get over that thought. The fact is that the consumption is greatly increased, and for two reasons: One is that the bees are now active, and activity can only be at the expense of stores; the other is that it takes a very large quantity of stores to feed the brood that is coming on in increasing numbers.

If your hives are 10-frame, or larger, and you know that they were heavy with honey in the fall, it may not be worth while to bother your head about them—the less they are disturbed the better. But if you are uncertain about it, and especially if you have 8-frame hives, better look into the hives the first day warm enough for bees to fly, and find out for certain. If far enough south, you may be surprised to find that the mild winter has caused more than the usual consumption.

What and How to Feed Bees in Spring

The best time to feed for spring needs, if feeding is necessary, is the previous fall. Unfortunately beginners are likely to be remiss in this matter, and when they discover in the spring that starvation is imminent, they begin franctically to inquire as to the what and how of feeding. The best thing, Mr. Beginner, is to have on hand from the previous year a stock of combs filled with sealed honey, ready to give to any colony that is lacking. Then give liberally, so that there will be more than enough to last till the fields offer a bountiful supply. But of course you haven't the sealed combs, and it isn't worth while to exasperate you by mentioning them, only it may help a little to make you look out for them the coming season.

Perhaps you may have on hand some candied honey. C. P. Dadant advises its use in this way: Smear it over the top-bars of the brood-frames, above the cluster of bees, and back of them. If put too far forward, it may drip down near the entrance, and favor robbing. Take pains to get at least one or two bees started on it by putting a little of it down within reach.

If you have no honey of any kind, then you must resort to sugar. Make it into candy, and lay it in thin cakes over the frames. It may also be fed in the form of syrup, and fed with Doolittle's division-board feeder or otherwise.

Caucasian Bees—Something Favorable

So far we believe we have published almost wholly unfavorable opinions concerning Caucasian bees—the new race that is being much lauded by some bee-keepers just now. We wish always to be entirely fair, and so now we propose to give somewhat of the other side—the favorable side—of these bees. We may say that we have not the slightest personal interest in them either way. They will have to stand or fall strictly on their merits, so far as we are concerned. We have no Caucasian bees or queens for sale, and if we had, we certainly should advise caution in introducing them with a view to having them displace the "old and tried" Italian bees in this country.

Of course, bee-keepers, like progressive farmers, horticulturists, etc., who are ever on the lookout for new and better varieties of animals and plants than they now have, are looking for a better bee. And this is commendable. But it is always well, in such matters, to "make haste slowly," lest after expense and experiment only disappointment result.

What the American Bee Journal desires to do is to place before its readers both the pro and con information on this subject, and then they, after due care and consideration, must decide for themselves as to what they think best to do concerning the matter.

We wish here to reproduce something about Caucasian bees that appeared in Gleanings in Bee Culture recently, written by Messrs. D. E. Lyon and Frank Benton, both of whom seem to be entitled to speak with some degree of authority on the subject. It reads as follows:

CONCERNING CAUCASIANS—CHARACTERISTICS, MARKINGS.

For some time the writer has been much interested in reading various criticisms concerning the new Caucasian bees. A careful reading of the testimony thus far offered convinces me that a number of writers have expressed themselves on the basis of hybrids and purely-mated Caucasians. My visit to Washington last spring convinced me that in the above-named race we have a valuable acquisition to the present races of bees. My experience with them the past season has but confirmed me in the estimate of them then formed.

I can not but believe, and I have good reason for so doing, that a number of adverse critics of this race have not had the Caucasians in their purity; and yet, in spite of this, the testimony as to their gentleness has been of universal character, showing that a dash of Caucasian blood in other races is a boon of inestimable value.

If this be true of a hybrid with just a trace of Caucasian blood, how much more gentle can we not expect the pure stock to be?

The first objection we hear raised against Caucasians is that they are so gentle that they allow themselves to be robbed, and do not repel their enemies with vigor. In answer to this I would say that such has not been the case with the strain of Caucasians I possess, for by several trying tests I have proved them to be good defenders of their homes. In the early fall I purposely opened a colony of Caucasians, and in a little while about 50 robber-bees were flying over the frames; and when they would fly too near, the Caucasians would repeatedly jump up to them and try to catch them; and when they would succeed in getting one, the way they would ball and try to sting it was a caution. And yet, while all this was going on I was constantly lifting out the frames without veil, gloves, or smoke, and not the first Caucasian attempted to sting me, even though they appeared quite vicious toward their enemies.

To test them further I caught a grasshopper and held it on the top of their frames, and immediately they covered it; and in order to save its life I shook the bees off and sent the grasshopper on its way.

I can not think of any other test that would prove their ability to defend their homes.

The other objection we hear is that they are so much like the black bees that even an expert often can not distinguish them; and in answer to this I would say it is a question of being absolutely certain of having the real thing............

The three bands which, in my strain of Caucasians are so distinct, are of the pronounced light gray, which, with the slight shade of orange on the abdomen, make it easy to tell these bees from the blacks.

I think I have fairly met the only objections against this race, and would reiterate what I have often said—namely, don't condemn them without really knowing them; for the real Caucasians, purely mated, are just the reverse of what their opponents charge them with being.

They are a trfle smaller than the Italians, and have the oriental type form of the Cyprians; and as honey-gatherers they have with me done just as well as the Italians, and much better than many colonies of that race.

If Mr. Frank Benton were in this country he would have something to say in defense of this race, adding his testimony to that already given by Dr. Phillips, to the good qualities of this noble race. Just before he sailed abroad he sent the following letter to the writer concerning the qualities and markings of the Caucasians, and in his absence I submit it as his estimate and defense of them:

U. S. DEPARTMENT OF AGRICULTURE, BUREAU OF APICULTURE.

WASHINGTON, D. C., March 25, 1905.

Rev. D. Everett Lyon:—I have your letter of March 21, asking about Caucasian bees. I can give only the main points in the character of this race, having had it under test on a comparatively small scale for two years past. I knew the race, however, by general reputation while I was in Europe and the East. The reports in the European journals at that time were just as may be noted regarding Carniolans in this country—quite contradictory; and as I had numerous other races under test in those years, I did not undertake a practical test of these bees until year before last. As I obtained in the autumn of 1902 three Caucasian queens, I had full colonies of the race with which to begin the season of 1903. Through additional importations of queens direct from the Caucasus, in Russia, I have further verified the observations which were made on the first lots obtained.

The most striking quality possessed by these bees is their remarkable gentleness. It is not equaled by any other race with which it has been my good fortune to meet. As a rule, no smoke will be needed at all in their manipulation, or, at most, a single whiff passed over the tops of the frames is quite sufficient to take away all sign of resentment. Under ordinary conditions the hives may be opened in any manner one chooses, at any time of the day, and the frames even roughly removed, and all manner of manipulations made without the necessity of resorting to smoke, and with no protection to hands or face; nor will a single bee offer to sting. The only time that pure Caucasians resent intrusion is when robbing has taken place and the hive is rudely jarred on a cool morning. At least such has thus far been my experience with them.

I can not say that they have shown *remarkable* qualities as honey-producers, but have thus far merely held their own fairly with the average of Italians and Carniolans. The same differences exist between individual colonies, as is the case with Carniolans and Italians, so that a selection in breeding as rigid as that to which the Italians have been subjected, would undoubtedly give strains of Caucasians that would fully equal or exceed the best Italians or Carniolans. The race is not very uniform in its markings. In this respect, in fact, it hardly equals the Carniolans, the yellow or rusty red bands cropping out constantly. There is, however, a peculiar marking which enables one to recognize Caucasian blood quite readily after he has acquired some skill in the matter. The dark color is of a peculiar dull leaden gray, and gives the bees a very ringed appearance. You have doubtless noticed Carniolans or blacks which have fallen into water-troughs, crept out, and become partially dried. These might be taken to resemble in color the Caucasian workers, as you will notice that the dark rings around the body show more distinctly when the fuzz is dampened. True Caucasians are slightly smaller-bodied than Italians or Carniolans—in fact, have the type form of the oriental races. The queens vary somewhat, as do the Carniolans, from a golden orange yellow to a black color, inclining, however, more to the dark type—dark bronze being rather typical. The drones are very black, and considerably smaller than Carniolan drones. The race is a very prolific one, and the workers seem active and evidently keen-scented, since they find sweets that are left exposed quite as soon as do bees of any race.

I have formed a very excellent opinion of these bees, and believe particularly that they will form excellent crossing material with the Cyprian race. We need males of a gentle race to mate with the queens of any or all of the oriental types; and I think in the Caucasians we have a type that will coalesce with the Eastern races.

FRANK BENTON,
In Charge of Apiculture.

Miscellaneous News ✣ Items

Mr. C. P. Dadant, President of the National Bee-Keepers' Association, made this office a pleasant call on March 9, when in Chicago on business. Mr. Dadant has the unusual distinction of being one of the leaders in bee-keeping in both America and Europe. And it might be difficult to tell on which side of the Atlantic the name of Dadant is best known among bee-keepers.

Apiary of H. A. Doty.—When sending the picture, Mr. Doty wrote thus:

The photograph of my apiary was taken from the chamber window of the dwelling-house looking northwest. This apiary has quite a little history connected with it. The bees have been kept near here for the last 10 years. About

6 years ago I purchased the land where they now are. Before moving the bees I built the board-fence seen in the picture, to protect my neighbors and a public street on the north side of the lot, as it is a well-known fact that bees flying over any obstruction are less liable to come in contact with teams or pedestrians. But some of my neighbors took exception to that high board-fence and tried to have it removed. Like all good doctors, the first remedy was to remove the cause—the bees. A petition was sent to the Board of Health that said bees were detrimental to the public health; to have them removed; also that high board-fence.

Our local "doctor," the Board of Health, looked the grounds over and weighed every point pro and con, and decided he could see nothing that would injure the health of anybody. The bees were neat and clean, and the fence was neither dangerous nor vicious. But this decision did not suit my neighbor on the other side of the fence. More stringent measures must be taken. Our village council was induced to pass an ordinance to prohibit the keeping of bees in the village of Central Lake in any form, for any purpose whatever, and imposing a penalty of a fine of not less than $2.00 nor more than $20 for every colony of bees kept in violation of this Act.

I have always tried to live as a law-abiding citizen, but this law brought me within its toils. I was arrested and brought before a local Justice for keeping bees in violation of this ordinance. I secured counsel and met my opponents in battle array. The Justice decided that such a law was unconstitutional, as it deprived a citizen of carrying on an honorable industry in any lawful manner whatever. This decision did not suit the complainant in this suit. It was but a short time before the second warrant was issued, and I was brought before another Justice, who, being a near relative of the complainant, and not knowing the facts, we had reason to believe the decision was rendered before the warrant was issued. We decided that any argument before this court was of but little use. The Justice acknowledged his inability to decide the constitutionality of the question involved, and for the violation of said ordinance I was fined $20; but I did not pay said fine, and carried the case to the Circuit Court. Here it hung fire for over one year, but finally the case was brought to trial. The Circuit Judge decided in accord with the first Justice, that the law was invalid.

Now the battle is over, the victory is ours, and the bees still hold the fort. I am afraid it is not fought to a finish, however—

For he who fights and runs away
Will live to fight another day.

My bees are my main support now in my old age. For the last three years I have been living upon borrowed time. I have climbed the mountain, passed the summit, and now am going down almost to the bottom on the shady side; but with the help of my good wife I hope to live and care for my bees a few years longer. H. A. Doty.

Surely, persistency is one of the strong points in Mr. Doty's make-up. And it seems to have won, at least for a time. It is surprising how some neighbors can be so cantankerous—so utterly unreasonable. We hope Mr. Doty may live yet many years, and finally completely overcome all opposition to his keeping bees so long as they are not real disturbers of the peace and quiet of the neighborhood.

* * *

Mr. Alson Secor, son of Hon. Eugene Secor, of Iowa, called on us recently. "Alson" is assistant editor of that great farm monthly, Successful Farming, published in Des Moines. A small part of his work is to look after the bee-department of the paper, which, of course, he knows how to do—that is, if he profited by his father's apiarian instruction when at home, and no doubt he did that, and along other lines also. Successful Farming is to be congratulated on having been successful in securing Mr. Secor as one of its editors.

* * *

Crofts & Reed are new advertiers in the American Bee Journal. They are all right, as are all others advertising with us, else we would not advertise for them. Give Crofts & Reed a trial order, and also our other advertisers. Kindly mention the American Bee Journal when writing advertisers.

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The Wisconsin Convention Report is crowded out this week. We expect to continue it next week.

Contributed Special Articles

How Can We Rear Better Queens?

BY A. K. FERRIS.

The answering of this question should be the study of every queen-breeder and honey-producer who wishes success.

The first thing we will consider is the selection of the queen from which to breed. In this we will select 2 or more queens, whose bees excel the others in amount of honey produced, prolificness, whiteness of capping (if comb honey be our object), and vigor—a point too often overlooked. Do not breed from a queen whose bees will allow brood to starve with capped honey in the hive.

Often a large percent of the brood is only half fed during the slack between fruit-bloom and clover, and what is the result? Some are starved to death, and a still larger amount never have that vigor necessary to good honey-production.

After having considered the good as well as the objectionable points in selecting breeders, then rear a few queens from the one selected to be the queen-mother, and a batch of drones from the one to be the drone-mother. Mate the queens to these drones, having them isolated from other bees at least 3 or 4 miles, or having entrance-guards on all other colonies.

Carefully keep tab on all hives containing these queens, and if those reared excel the others in honey-production and other desirable points, the choice of breeders has been a good one, and the whole apiary should be requeened from these two breeders.

When we find a queen-breeding queen and a drone-breeding queen, whose offspring, when mated, reproduce the desirable qualities, they are of great value, for such queens have to be at least 1½ years old before they are thoroughly tested, and it is hard to find breeders that reproduce the good points.

Often the queens reared from an apparently excellent queen and mated to drones of another equally good will not reproduce the good qualities of the parents in a single particular. Therefore, when we find two breeding queens that reproduce their excellent qualities, they are too valuable to be disposed of.

The next question that naturally presents itself is, How to rear these queens? I have tried all known methods, and have found none to produce so large a percent of good queens as the Doolittle system described in "Scientific Queen-Rearing."

I find, however, some still argue that queenless bees rear just as good queens as any, and for the benefit of those who are interested, I will give my experience:

I purchased from a breeder who emphatically urges the use of queenless bees for cell-building, a $5.00 queen, also the booklet on "Improved Queen-Rearing," and after thoroughly studying it I reared a large number of queens, and as I had made some 35 colonies queenless all the same day, I gave each a cell that would hatch in a couple of days. Twenty-one of these cells were from the Alley method, and the rest from the Doolittle method. All had been made queenless the day previous to giving the cells; but, to my surprise, all the Alley cells were torn down, while all the Doolittle-reared cells were accepted. This set me to thinking, and I determined to know the secret.

So I selected an extra strong colony 3 stories high, and after fixing a solid division in the center, I divided the bees equally and operated one-half on the Doolittle system and the other half on the Alley system, and while it was the bees from the same queen, and all in the same hive, the difference in the cells was apparent, and as these were hatched in cages I found that the difference in the queens was noticeable enough to be detected by people who were strangers to bee-keeping.

I have never had, as a rule, as good queens when reared by queenless bees, and I have had two $5 queens as breeders, and neither they nor their offspring (when reared by the Alley method) ever occupied over 8 Langstroth frames of brood, while queens reared by the Doolittle system from these same two queens occupied from 9 to 14 Langstroth frames with brood.

In making artificial cell-cups there is a point frequently overlooked, and that is the inside diameter. Three-eighths of an inch I find to be about right, and in these cells I invariably find a large lump of royal food remaining after the queen has emerged.

In operating the Doolittle method I prefer from 20 to 30 Langstroth frames of brood, with a large share of it hatching for cell-building. In the two accompanying cuts you can see a part of my cell-building colonies as in operation June 17, 1905. [See cuts on first page.—ED.]

From past experience I am prepared to say that with better queens our yield of honey per colony can be greatly increased.

Wisconsin.

A Quick Queen-Finder—Methods of Feeding Bees

BY C. DAVENPORT.

THE past season, I also solved another problem that I have thought, worked, and studied over ever since I have kept bees. This is a queen-finder. With this device I can find a queen quicker than one could believe possible. Last summer in the presence of three reliable witnesses I found the queens in 4 very strong colonies in the following time: First hive, 87 seconds; 2d, 64 seconds; 3d, 109 seconds; 4th, 96 seconds. This did not include moving from one hive to the other, and of course, I worked faster than I usually would; but instead of being about the worst drudgery connected with our pursuit, it is a pleasure to find queens with this device. It becomes one of the things we would not sell for money if we could. No matter whether the queen is black or yellow, this device gets her, and gets her quick. It will find a queen in a strong colony just as quickly as it will in a weak one. The frames are not taken out or distributed in any way and it is impossible to lose or injure a queen.

But my intention was, in this article, to describe a method of early spring feeding that I have practiced the last 4 seasons. Of feeders and ways of feeding, there are about as many as there are bee-keepers. Although this method is very simple, I do not remember ever seeing it described. Where early spring feeding is necessary, it has, aside from sealed combs, given better results than any method I have ever practiced.

I use a cheap grade of extracted honey if I have it on hand; if not, granulated sugar and water, mixed half and half. After the sugar has thoroughly dissolved, I take half-depth extracting combs and fill them with this food by pouring it on the combs from a height of 2 or 3 feet. I have a tank for this purpose large enough to hold a number of combs at once. Two or 3, or as many of these filled combs as are deemed necessary for a colony, are then placed in a super and this super is put *under* the hive. The entrance can then be contracted as desired.

If extracted honey is used in place of sugar it is warmed up and thinned or reduced with water. I put in about a third water if the honey used is thick.

The great advantage of this method of early feeding is that the colony is not disturbed, and no heat is lost, as there is with any kind of overhead feeder. In fact, often when I deem it necessary to feed a colony soon after it is removed from the cellar, and I have sealed combs on hand, if the weather is not favorable, instead of taking out and inserting another comb, I place it *underneath* the colony, in a hive or super.

And now I am going to write something in regard to early spring feeding, or late fall feeding, that I have no doubt will be a great surprise to many, and that, in my opinion, will be worth their time in reading this, for some who may in the future have to feed early or late; and it is a surprise to me that with as many closely observing men as we have in our ranks, nothing much has been said about it before. The way I came to observe the matter was this:

A few years ago I purchased a few colonies of a neighbor who was moving away. This was late in the fall, and most of these colonies were very light in stores. They were fed up on buckwheat extracted honey. In order not to excite the whole yard they were fed about 5 pounds each evening towards sundown. They took the feed quite readily, but after some of them had been fed 15 pounds or more they did not seem much heavier than before feeding. Upon investigating the matter, I found that a large percent of the bees that took the feed flew out and never returned. The nights were quite cool, and probably many were chilled, but many also came out and flew such a distance from their hives after it was so dark that I do not believe they would have gotten back that night, any way, no matter how warm it was.

Since then, when feeding early or late, I always close the hive so that no bees can get out. They will take and store the feed just as well, and by the next day they are all over their excitement. They will worry some after the hive is first closed, but soon get over it.

In my mind there is no question that the reason so many colonies that have to be fed in early spring perish, or dwindle away, is that a large percent of the bees that take the food fly out and perish before they are able to return.

Southern Minnesota.

[Mr. Davenport is hereby requested to describe his quick queen-finder, for the benefit of the readers of the American Bee Journal.—EDITOR.]

Experience in Buying Queens — Disinfecting Introducing-Cages

BY J. E. JOHNSON.

ON page 97, Mr. L. A. Smith says he has had experience in buying queens, and has not as yet found an honest queen-breeder. My experience has been just the reverse. For about 20 years I have bought queens occasionally, and have always received fairly good queens, but during that time I have bought only one tested queen. I get untested queens, as I think a young queen that has only begun laying is less liable to be injured in the mail. However, I got a tested, purely mated queen from England last summer, and she proved to be all right. She came in a fairly large cage, and had a retinue of 20 or 25 bees, and was 14 days on the way.

I always aim to get my queens in June or July, as I think better queens are produced during that time of year I never order queens of a man who advertises untested, and also "select" untested, as I think no queen-breeder should send out an *"unselect"* queen, so I "cut out" that kind of a man entirely, because I want to get a queen from a man who values his reputation better than to send out two grades of untested queens, which means poor, and not so poor.

Last year I got 12 queens from one man at 50 cents each, and every one proved good, and although all were untested queens they all proved to be purely mated; but I don't think I ever had an order for queens filled right away until last year. Then my order was filled the day it was received, except 4, which were sent 2 days after the order was received. The breeder I sent to advertised in the American Bee Journal that he could fill orders "by return mail."

Now, I believe we should have a little patience, and expect 5 or 10 days' delay unless the breeder advertises to send by return mail, as the orders may chance to come in too fast just at that time; but if a breeder is thoughtless enough to delay the order 30 days, or over, without giving notice and offering to send the money back, he ought to be exposed. However, I think in the end it will cost the queen-breeder more to be dishonest and careless than to deal as he would be dealt by.

I have queen-cages that are disinfected that I use for introducing, and no matter who the queen is from, she is placed in the disinfected cage for introduction.

To disinfect a cage, take 40 parts water and 1 part carbolic acid. Lay the cage in this solution for 1 hour, and it will be safe from all disease. Of course, the cage should be thoroughly aired and dried.

I believe we should give more attention to having young queens, as I find that often the colony that spring dwindles has an old queen. The bees don't seem to supersede their queens until the old queen is failing pretty fast, and that is often not soon enough to suit me; but I believe we can rear longer-lived queens in a 3-frame nucleus than in a baby nucleus.

It would, no doubt, be quite profitable for every bee-keeper to rear his own queens, and thus he would get valuable experience, and probably good queens.

Williamsfield, Ill.

Full Weight vs. Short Weight Section Honey

BY L. V. RICKETTS.

SO, Mr. Hasty, on page 794 (1905), thinks that I am working at a good matter, yet he can not fall into my procession. I am sorry for that, for I like good company. I think I will have to go it alone, then, for awhile, at least. What I am advocating is right, and right will always win in the course of time.

Mr. Hasty seems to convey the impression that I am trying to have each and every section weigh exactly one pound. I am only advocating a change from the present size —4¼x4¼x1⅞ section, which, when fairly well filled with separatored honey weighs (on an average) only 14 2-3 ounces, or 22 pounds per case of 24 sections—to one enough larger so that when filled as above, it will weigh (on an average) 16 ounces, or 24 pounds per case of 24 sections. These sections may range in weight from 15 to 17 ounces each, but should average 16 ounces, or not less than 24 pounds net (weight of sections included) per case of 24 sections, for "No. 1," separatored honey. Sections weighing from 13 to nearly 15 ounces should be graded as "No. 2," as to weight, and should average 14 ounces per section or not less than 21 pounds per case. Sections weighing from 11 to nearly 13 ounces should be graded as "No. 3" as to weight, and should average 12 ounces, or not less than 18 pounds per case.

Mr. Hasty says that with him occasional ones are over one pound weight now. Those *occasional* ones are the sticking point; how easily our conscience will permit us to sell hundreds of sections weighing only 14 or 15 ounces as pound sections, but when it comes to an occasional one weighing 16½ or 17 ounces it pinches us, and we squirm.

He says that it is hardly right to balance off extra-weight ones against scant-weight ones in the same case, and so push the difficulty onward to the grocer. Is it not better than to balance off scanty weight ones against scantier weight ones, as is being done at present?

If all were like Mr. Hasty—who prefers to sell by weight instead of by the section, and even deducts the weight of the wood in the section—there would have been no use of writing this article. For many reasons (some of which are stated on page 695 (1905), I consider the 4¼x4⅝x1⅞ bee-way section by far the best size to use. An ideal outfit for the production of comb, extracted, or chunk honey, or all in the same apiary, is either the 8 or 10 frame Langstroth hive (according to locality, etc.), with supers of the same length and width as the hive, and 5⅛ inches in depth. A super of this depth is just right for the 4⅝-inch tall section when used with section-holders having bottom-bars ¼ inch thick, and allowing a ¼-inch bee-space above the section.

This super will hold frames 4⅞ inches in depth, and allow a ¼-inch bee-space above the frames. These frames are suitable for the production of either extracted or chunk honey; and the super and frames will serve as a shallow or separable brood-chamber, which, for those preferring such a hive, is convenient indeed. Thus, as stated in a previous article, we have a super for extracted, section, and chunk honey production, as well as a shallow or separable brood-chamber, all in one.

That it pays to work for both comb and extracted honey in the same apiary, there is no doubt in my mind. By the use of the outfit above mentioned, one is enabled to run an apiary with much less expense for supplies than when a different super is used for extracted than for section honey. It is the intention of the writer to use the above-described outfit in a limited way during the coming season, and to use it exclusively hereafter. Pullman, Wash.

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Odors Among Bees—Some Observations

BY ARTHUR C. MILLER.

THERE appeared an interesting article from the French of Mons. L. Forrestier, translated by Mr. Dadant, and dealing with odors among bees, on pages 567 and 632 (1905). The first point which arrests attention is that the author did not approach his experiments with an unbiased mind. He was at the start convinced of what he set out to demonstrate, and naturally saw in his experiments only those facts supporting his preconceived ideas.

Among his recorded experiments he says he repeatedly washed his hands to remove all trace of human odor—an impossibility to start with. Next he smeared his hands with the juices from crushed drones, and in some cases the bees of the colony from whence the drones were taken failed to sting him, and in other cases they stung. Nothing positive there. Again, in two or three instances when hands so smeared were presented to a colony alien to the drones, stings resulted; but while he attributes the painful reception to the presentation of alien drone odor, he seems to forget that living alien drones would have been well received.

He cites the harsh reception in their homes of bees washed in alcohol, which treatment he assumes removed the home odor. The painful and fight-inducing effect of such a bath he entirely overlooks. But he says that after a sufficient time has elapsed bees so treated having, he assumes, recovered their natural odor were favorably received by their sisters. Such reasoning is hardly worth noticing had it not been so widely copied.

Let me cite some facts falling under my own observation:

Hands coated with a solution of propolis from one hive will pass unscathed in every hive. Where is the home odor? The human odor is sealed in by the varnish. Sometimes the bees will assail the moving hands but will only strike, and not sting.

A bee slightly injured by the moving of a frame is not infrequently set upon by her sisters. Surely she has neither lost nor acquired an odor. But she often shows a fighting spirit.

Queens caged in a colony to which they are to be given are often killed, and queens given without caging are no more frequently killed.

Bees often freely pass from colony to colony. Often we can unite bees of different colonies without difficulty, and again bees from one colony separated from their sisters for a few hours, even though on their own combs, sometimes fight to a finish on being reunited. This is notably so with Cyprians. Confined bees accept aliens without trouble. Cannot confined bees smell? All evidence points to the possession of bees of an acute sense of smell and a strong antipathy to many foreign odors, but it does not consequently follow that odors govern their attitude toward each other. Because certain animal and other odors greatly excite them we cannot conclude that the odor of an alien bee is the cause of her sometimes killing reception. It is far more rational to say that the alien recognizes the strangeness of the surroundings, and acting on the defensive soon finds a sister ready to knock the metaphorical chip from her shoulder.

There is as much, or more, evidence against the "odor theory of queen reception" as currently taught, as there is for it, as will be seen if it is only looked for without prejudice or bias. Providence, R. I.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

BINDING VOLUMES OF PAPERS.

The binding proposed by Mr. Ross is capable of making a nice volume, evidently. If you don't care for looks it's a much quicker way to drive a few wire nails through the backs. If the contemplated volume is thin, choose nails that will go clear through and clinch. If the volume is thick, choose nails that will not go quite through, and drive some from each side. Page 119.

SOMEWHAT HIGH BEE-KEEPING.

Bee-keeping on the Alps, 3300 feet up, looks very natural and Yankee-like—as well as interesting. I'll play that the keeper knows better than to shake a swarm into a hive direct—only using the empty skep as if it was a basket, from which he will run the bees into one of those nice frame hives. Front of No. 6.

PROLIFICNESS AND HONEY-PRODUCTION.

C. P. Dadant is a little bold in saying that prolificness and large honey-production *always* go hand in hand. "Usually" would be a more conservative word. I think we do hear sometimes of bees that habitually come out strong in the fall, but with almost no honey till it is given them from other colonies.

Very interesting to hear of the long, long struggle to find out how to import queens direct from Italy.

And so too much in-breeding produces blind drones. Queer. Page 120.

SOMETHING MORE ABOUT "MOUSES."

Doolittle on the mouse (big man on small beast) is just as interesting as Doolittle on a section of honey. The mice of Northern New York and those of Northern Ohio seem to be about the same. No. 2 among mice is like the white man among men—goes round the world. My impression is that most of our corn-shocks and stumps are peopled by the

same fellow. Whether (in this locality) we have any field-mouse apart from No. 2—I'm at sixes and sevens on that question. But the mouse that quickly dies of terror when caught in a trap that doesn't hurt him a bit—can he be of the same species as the mouse that has no thought of dying—that spitefully gnaws up everything within reach, and royally fights you to the last? It hardly seems possible notwithstanding they look so much alike. My impression is that we have here another burrowing mouse apart from No. 4; bigger, and also plentier; not so much resembling the mole; about the same size as the house-mouse, but with a stub-tail instead of a long one.

Doolittle is usually accurate, but I am unreasonable enough to entertain some doubts whether he is perfectly sound on mouse diet. I think the house-mouse rarely eats honey except when near to starvation—but sometimes peels cappings off for pastime when time hangs heavily on his hands. However, poor mousie does face starvation at close range pretty often, in which condition he naturally has to eat anything he can get. I also suspect that more than one species will pull dead bees out of combs—at least when hard up for something to do. I wish Prof. Bigelow would tell us what he knows about mice.

Right that the choker-trap is best to reduce numbers quickly when mice are plenty; but for getting the last one, when he's old and wise and wary, the wire-box with a door that snaps down is better. Feed him round the outside every day (careful not to give quite so much as he could eat), and sooner or later his suspicions will fade away, and he will be caught. Page 120.

APIARIAN READERS AND READING.

Our Editor, on page 117, makes bold to give readers a little advice on *how* to read. Right. Give 'em some more of it. The few who read all, and the larger few who dip into every article and finish all they find interesting, don't need much advice, but the others do. Half of them waste a good share of the little time that they do spend at reading. No *acquaintance* with its different departments; and no idea where to find what they want. No method or plan at all except to dip in at random and read till time expires, or till "that tired feeling" comes. Hope it's a small one, but it's to be feared that there is a still worse class of readers—the proud-of-their-martyrdom class. Vain of not needing to read bee-literature at all, because they know all about bees—but take a paper just to be a good example to the brethren. Never open the paper except they first whistle for all the languid and bored feelings which human shiftlessness is capable of, to come and keep them from getting either profit or pleasure. What will they get, pray? The answer to this query and the solution to the doggerel lines below are one and the same word:

I am, and yet in sober truth I'm not.
A deep, deep riddle's what I am, I wot.

I cause, oft and again, girls giggling glee.
A certain brand of man gets mad at me.

Because of me the jealous husband slays;
And jealous wives spend frowning, weeping days.

On festival evenings fair shoulders they don me.
When God made the world he hung it upon me.

There, now! That's what you'll get if you don't read the American Bee Journal with proper zeal, gumption and respect.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

What Line of Work Shall We Take Up?

Who is not interested in the welfare and the progress of our industry—bee-keeping? I am well aware of the fact that every bee-keeper who is in the business for the "bread and butter there is in it," has this matter at heart, and is ever ready to find or devise something that will make his work less and easier, yet increase his returns from the apiary. And we do not blame him. That is just what all of us should be doing—study a little more the things we are going to do.

But how shall we begin to improve upon our old ways and methods? or what line of work shall we take up? There are many, to be sure; for instance, "Short cuts, and their application," could be made into valuable discussions. There are many ways of doing things. Every bee-keeper has his or her way, and these are just the ones we want to hear about. How to cut off the corners, how to "get there" quicker and easier, and then make *more* money, is what all of us want to know.

"Breeding and improving our bees" would be a good thing to discuss thoroughly, devising some good plans of procedure for the average honey-producer as well as the specialist breeder. A better grade of bees in our apiaries would mean *more* money for us.

A subject that has been of much interest to me has been the planting for bee-forage—such plants that will yield nectar during times of scarcity or entire dearth. These need not necessarily yield a crop of surplus—for it is almost certain that *very* few could be found that would do such a thing—but in many localities only a light flow to tide the colonies over successfully during the honey-dearths from the spring flows to the fall honey-flows would mean thousands of dollars for the bee-keeper in such localities.

At the Texas State Experiment Station a test of over 30 different kinds of honey-yielding plants were experimented with for a period of 3 years in succession. Small plots of each were planted, and at intervals of one month apart throughout the season, making 4 plantings a year. Among these were the clovers—red, mammoth red, alsike, white, sand, Japanese, suckling, yellow trefoil, white and yellow and yellow sweet, and alfalfa; Japanese and American buckwheat; Desmodium, Euphorbia, Astragalus (2), mustard, sage, borage, cowpeas (4), velvet beans, Japanese Dolichos, Australian salt-bush, Resedas (2), catnip and a few I do not recall just now. Many of these did not grow, especially the clovers. Apparently the atmosphere and the seasons did not agree with them. Besides, it gets too dry in the summer in most Southern sections for clovers to do well, except the sweet clovers and alfalfa. Some of the other plants grew, and a few bloomed, bees working on them, but they were of little importance.

The experiments, sifted down, left white and yellow sweet clovers for planting and scattering in waste-places and along roadsides and fences and for forage; Japanese buckwheat and the cowpeas for cultivation, both for honey and forage, preferably drilled and cultivated in rows here in the South; and alfalfa for irrigated districts. The latter yields some honey where not irrigated, but is then not important as a honey-yielder.

Buckwheat does not always yield, sometimes only sparingly, depending a great deal upon the season and atmospheric conditions. The average hot summer is too dry for it to yield, as warm, moist weather conditions are most favorable for it. I have cut buckwheat for hay just about the time the majority of the seeds in the heads were beginning to harden, and cured it. When fed to stock, especially if a large amount of kernels have been matured, they eat it greedily; also green.

The cowpeas yield abundantly just at a time when needed, for they gave the bees something to do during June, July and part of August, when nothing else was to be had for them. These can be planted at intervals of a month apart, which would give a succession of bloom during the season. As drouth does not affect them as much as most other vegetation, they should be given a further trial. It will be well for me to state, in this connection, that of the different varieties tried, the one known commonly as the "whip-poor-will pea" is the best. The others form more vine and a denser growth, to the detriment of the bloom that the bee-keeper seeks most. I might also say that it is not necessary for the cowpea plant to be full of blooms to yield nectar, as this is mostly secreted by external nectar-glands on the terminal flowering stalks, and the nectar can be plainly seen in large quantities within reach of the bees.

My preference has been a strong leaning toward sweet clover. As it can be sown in waste-places and along fences it seems to be the cheapest and most practical for the bee-keeper. Cultivated land is rather expensive in most localities to be devoted to honey-yielding crops, and then, too, many a bee-keeper hasn't any land.

Any or all of these honey-yielders I have mentioned should be given a thorough trial in the different sections of the South—on a small scale at first, then if they prove successful for cultivation, and of value to the bees, larger areas can be devoted to them. As the soils and climatic conditions vary to such an extreme in the different States of the South, and also in different sections in any one State, it would be necessary and most advisable to test the different plants in each locality.

These, now, are some lines of work that it would be well worth considering by the bee-keepers, and I should be glad to hear opinions from them from all over the South.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

J. B. HALL

One of Canada's Foremost Bee-Keepers

The following sketch of Mr. J. B. Hall is kindly furnished by one who is most intimately acquainted with him—Mr. Hall's daughter:

J. B. Hall, Apiarist, Woodstock, Ont., is a native of Norfolk, England, born in Yarmouth, in 1833. He never saw a honey-bee until he arrived in America, in 1856. During a period of indoor employment his health failed, and in 1872 he invested in one colony of bees. In the hands of a beginner the bees died, but Mr. Hall, who, to use his own words, had lost the color from his cheeks, the flesh off his bones, and the sweet out of his temper, regained the color, and increased in weight from 132 pounds to 187; of the temper he remains silent, but the bees must have improved it in proportion to his flesh.

This venture went so well with him that the next year he purchased 3 colonies, and with an enthusiastic friend bought an extractor. They extracted so energetically that the bees were left no winter supply, much to the surprise of their owners. The bees died of starvation, for these deluded men thought, like their fellow mortals, that honey flowed all summer long.

J. B. HALL.

☞ But to follow the old motto, Mr. Hall tried a third time in the next year with 8 colonies. Repeated failures had purchased wisdom, and all went well until the next summer, when the apiary was invaded by foul brood. A neighbor had unwittingly purchased it along with a $20 colony of Italian bees. Mr. Hall knew no cure, so he destroyed the apiary utterly.

However, he was not to be beaten, and in 1876 he made a fresh start with 4 colonies. From this on all went splendidly, and Fate no more intervened to prevent his becoming an apiarist. Three years later he quit his business and devoted all his time to the production of honey. Since then he has won his bread and butter solely by the business of the apiary.

In 1883 the North American Bee-Keepers' Association held their annual meeting in Toronto. Mr. Hall had a feeling that our friends to the south of the international line were abused of the idea that Ontario produced nothing but snow, Indians and bears. For the purpose of their enlightment, he proceeded to Toronto with 22,000 pounds of his year's crop. The United States visitors were exceedingly surprised, and accordingly delighted with the great Ontario exhibit of splendid honey. Dr. C. C. Miller and A. I. Root were there and saw Mr. Hall's thick top-bar. They reported to the bee-papers, and it caused a great laugh. Some said Mr. Hall must live in a wooden country to get so much to put in his comb-frames. Now they all see the utility of the method, and Mr. Hall is satisfied.

He uses two kinds of hives. One is the New Heddon, the other is an 8-frame hive, the inside measure of the frame being 18⅛ inches long and 10¼ deep. He much prefers the larger frame.

You wish to know his hobby? Well, it is flowering plants, and the neighbors say if J. B. Hall touches a plant, it is sure to prosper.

H. L. H.

J. B. Hall—The Thorough Bee-Keeper.

The following tribute is from Mr. H. E. Hill, editor of the American Bee-Keeper, who at one time was a student of J. B. Hall:

Mr. Morley Pettit—

Dear Sir:—In 1885 I had the honor and extreme pleasure to spend the season with Mr. Hall, in his "Woodstock" apiary, and had cultivated a degree of acquaintance bordering on friendship for several years previous to this more intimate association.

It is, I think, noteworthy in this connection that Mr. Hall should have lived to the age of 23 years, and then have to cross the Atlantic to see a honey-bee; but, if I remember correctly, he saw his first bees in Canada. It must have been a case of ardent love at first sight, for his interest seems to have been constant ever since. In 1876 he became a specialist in bee-culture, and has confined himself exclusively to the pursuit of his chosen vocation.

Should you ask me as to Mr. Hall's dominant trait as displayed in business, I should unhesitatingly reply, "*thoroughness.*" There is but one way in which to execute any task that Mr. Hall may have in hand, and that is exactly as, in his opinion, it should be done. Slipshod, half-hearted, slovenly methods are not tolerated. He knows no middle ground in the performance of his work. There is the beginning and the finish; and when he has finished it is safe to bank that the job is *done.*

As I recall this painstaking care of my venerable and esteemed friend, I doubt not that this inherent characteristic is largely responsible for the successful apiarian career now to his credit. From the leveling of every hive-stand with a spirit-level in the spring preparatory to putting out the bees, to scraping and crating the crop in the fall, as well as the loading of cars with his product, every detail had the nicest attention.

Although jovial in manner socially, kind-hearted and affectionate in his home, and a firm believer in hours for ample recreation and rest both for himself and his employees, during business hours nonsense and carelessness are relegated into exile, and strenuous business ethics are observed throughout.

Since the opportunity is available, I am inclined to note some of Mr. Hall's shortcomings also, for, in common with other mortals as I see it, he is not without his faults, the most regrettable of which is his almost morbid modesty. Were it not for this unfortunate characteristic, the realm of beedom might profit by his writings. This condition, however, is one for which Mr. Hall can not be held entirely accountable, as he "swore off" writing for the press years ago, largely because of the habit of some editors in so closely editing everything that the substance was sacrificed upon the altar of syntax and diction.

Mr. Hall is a great admirer of flowers—in fact, floriculture is his one great hobby. Like other florists, he has two names for about every kind of flower that grows—one that we have all heard, and one nobody outside of the business ever heard of or would attempt to pronounce.

I believe Mr. Hall was first to introduce the thick top-bar, and also the inventor of the zinc-wood honey-board.

He is a gentleman whom it is a real pleasure to know, and an honor to count as a personal friend.

H. E. Hill.

Ft. Pierce, Fla.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

◆

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

Bees Wintered Well

I have just returned from my winter sojourn in Cuba and Florida, and find my bees have wintered well—not having lost a single colony. My sister bee-keeper visited me to-day—Mrs. A. L. Amos—and tells me her bees are in fine shape, so I think, as a whole, the bees have wintered well on the summer stands in Central Nebraska.

Westerville, Nebr., March 9. JENNIE BOOKNAU.

Honey for Freckles and Liver Spots

For freckles and liver spots: Eight ounces of pure extracted honey, 2 ounces of glycerin, 2 ounces of alcohol, 6 drams of citric acid, 15 drops of essence of ambergris. Apply night and morning. If this does not remove them, you will probably be obliged to use some good proprietary bleach. There are bleaches that are perfectly harmless.—MME. QUI VIVE, in Chicago Record-Herald.

Lest the supply of honey should not suffice for all the freckles in existence, it may be well to add that in the same column Mue. Qui Vive says:

"Genuine beauty is never shadowed by a freckle any more than the sun is eclipsed by a candle."

Thinks She Wants Large Hives

MY DEAR MISS WILSON:—I am thinking of buying a new hive and don't know just what I want. My idea is to run one colony only for extracted honey the coming summer. I do not care much for increase. My idea is a larger hive and a "rousing" big colony. Do you recommend a 2-story dovetail hive for this purpose? If so, how do you manipulate such a colony when you have 2 brood-chambers, in looking for queen-cells, etc.? If you do not recommend such a hive can you recommend a good one for the purpose above mentioned?

Also, are the 2-story hives both for comb or extracted honey made in the double-walled chaff-filled? In a catalog I have, all the hives described seem to be single-walled, and would require much more careful packing than the double-walled hives in winter.

The frames in my 8-frame Hilton hives are Hoffman frames, and I shall continue to use the same in whatever hive I buy.

Also, for extracted honey, do you recommend the deep or shallow frames?

My reason for changing hives is to get a larger colony than an 8-frame hive can accommodate, and also more honey per colony. I shall run mainly for comb honey, but want one colony for extracted honey for medicinal uses. In case I like the larger hives better after a trial, I shall buy enough to take all my bees.

Also, are the large hives better than the smaller ones in a city? Things which apply in the country are sometimes quite wrong in a city.

The fall and winter up to last Friday have been unusually mild, and the bees have been out some nearly every week. Two weeks ago last Saturday the thermometer was somewhat above 50 degrees, and the bees were all out for a good flight. Since then the thermometer has been down as low as 6 degrees below zero, and the bees are "sleeping."

Grand Rapids, Mich., Feb. 1. ELSIE A. CUTTER.

The decision of the question as to what is the best hive for you depends a whole lot upon what *you* are going to do. If you do not intend to give the bees a great deal of attention, but expect to leave them a good deal to their own devices, then the larger hive, by all means. It allows a larger stock of provisions on hand at all times, with less danger of starvation. But if you expect to give the bees all the attention they need, then the smaller hive may be the better, especially for comb honey. By the addition of another story you can have all the advantages of the larger hive, using only one story when it may seem best. With 2 stories you have room for even stronger colonies than with one story of the larger hive, and then, when the harvest comes, you can reduce to one story, throwing the bees largely into the supers.

If only one colony is to be run for extracted honey, better have the brood-chamber the same as the rest, for the sake of uniformity, even if not just the best for extracted honey. And for so small an amount of extracting, you may as well have extracting-frames the same as the brood-frames.

City or country would hardly make any difference as to the kind of hive.

When brood is in 2 stories, you must lift off the upper story to find queen-cells in the lower story. But you will not have much of that do, for there will not be much hunting for queen-cells before reducing to one story for giving supers.

You will find the single-walled hives easier to handle; and the packing for winter is not a very serious matter. You will probably not find chaff hives made so as to be used part of the time single story and part of the time double story. It may not be out of place to say that we often have colonies so strong that a 10-frame hive would not accommodate them, but with the 8-frame 2-story they can run up to 12 or 15 frames if they want to.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Formalin for Foul Brood

What became of the formalin treatment for foul brood, that was so popular a year or two ago? I have not seen it mentioned for some time. Did it prove unreliable? CALIFORNIA.

ANSWER.—Formalin, or formaldehyde, could hardly be considered as a cure for foul brood, for it would kill all bees and brood submitted to it. Its proposed use was to save the combs of foul-broody colonies from being melted up. Some reported that combs thoroughly fumigated with the drug would have no trace of foul brood left, and could be given with safety to healthy colonies, and others were not so successful. The probability is that if rightly used it may disinfect diseased combs; at least that is the belief of some good authorities.

Drones and Brood in Hives in February

It is now Feb. 25—a very warm day—and my nephew looked at his 3 colonies, and found 2 of them with lots of sealed and hatching brood. They are Italians, and have drones hatched out, 2 queen-cells capped over. One cell was just hatched out, and he found the young queen, but forgot to look for the old one. Will the young queen be of any account? Were they superseding the old queen in February, or will they be likely to swarm, as the maple-buds are swelling? The colony is extra-strong for this time of the year, and the old queen was very prolific. I have been keeping bees about 10 years, and never heard of such a thing. I am taking 3 bee-papers, and do not remember having read about it. ILLINOIS.

ANSWER.—There is nothing unusual in finding brood in the last week in February, but it is very unusual for a young queen to be reared so early. It was probably a sort of forced superseding, the bees recognizing that the queen had so far failed that they must immediately take steps to supersede her. A queen reared so early is not likely to prove of great value, and it will be well to keep an eye on the colony lest it be found queenless in April. Swarming is not at all likely in February in Central Illinois, no matter how strong the colony.

Temperature in Center of Winter Bee-Cluster—Making Combined Comb-Guide and Starter

1. In Gleanings for April 1, 1896, page 307, Mr. Doolittle gives 92 degrees as the lowest temperature the bees will allow in the center of the cluster even on frosty nights, and from actual tests he has concluded that 92 to 98 degrees is the usual heat in the center of the cluster of bees.

2. I had no thought of asking questions when I started to write,

but a Texas man recently said that Doolittle taught him how to make a wax comb-guide and starter combined that had been satisfactory to him for years, but said he would not tell how it was made. Can you not tell us how? CANADA.

ANSWERS.—1. Thanks for information as to temperature, and from so reliable a source.

2. One way to make a starter and guide is to nail on the underside of the top-bar a thin strip coming down to a sharp edge, half an inch or so deep, and by the aid of a small brush paint it with hot wax. Another way is to hold firmly, or else tack lightly to the underside of the top-bar a square strip which is kept so thoroughly wet that wax will not stick to it; then pour into the angle or trough thus made melted wax, holding it in such position that when slightly cooled and the strip removed there will be a thin starter of wax hanging down from the center of the top-bar a half inch or so. One trouble with any arrangement of this kind is that there is nothing to hinder the bees from starting drone-comb if they feel so in inclined. Much more satisfactory is a starter of worker foundation.

Wiring Frames With Starters Only—Sweet Clover

1. Is it of any benefit to wire frames when using only starters?
2. Will the bees build straight combs from starters?
3. Will sweet clover grow here in Wisconsin? or, does it grow here?
4. If so, where can I get sweet clover seed ?
5. Is it tender or hardy? Will it freeze as easily as does corn?

WISCONSIN.

ANSWERS.—1. Yes, the wires will strengthen the combs, although there is the objection that you can not count on the bees following the wire with the septum, whereas when full sheets of foundation are used the wire is always fastened in the septum, or the middle wall of the comb.

2. Ye—es, at least pretty straight. They will start straight at the top, and if the hive stands perfectly true from side to side you can count on their following that general direction, only toward the bottom they will build the comb more or less corrugated, or waving. They seem to do that for the sake of greater strength. But for all practical purposes you can get combs straight enough without full sheets of foundation. But you will have too much drone-comb with it.

3. I think it is scattered all over Wisconsin.

4. Watch the advertising columns of this Journal. Or, address some of the supply-dealers. Perhaps they can furnish it.

5. Hardy—very hardy. Sweet clover would only laugh at a freeze that would kill corn. I think I've known it to be killed only in two ways. One year I prepared a piece of ground in fine shape, sowed sweet clover with oats, and it made a fine stand. Next spring there wasn't a spear left. The ground was so nice and soft that it heaved and pulled up all the sweet clover by the roots. In the solid ground of the roadside I never knew it to winter-kill. Another year I had a piece mowed close to the ground when it had started from the seed and was nearly a foot high, and it finished it.

Drone-Comb in Upper Hive-Stories

I have quite a lot of nice, straight drone-comb. I used some last season in upper stories for extracting, but the bees did not seem to fill it as readily as they did worker-comb in the same hive; but I know one season is not sufficient to test anything in bee-keeping, hence I would like to have the experience or opinions of others longer in the business than I have been. Would it make any difference to the bees whether they had drone or worder comb to store surplus in, in an upper story, said upper story being a full hive-body, and the queen confined to the lower story? INDIANA.

ANSWER.—There ought not to be a particle of difference generally, provided the only difference was in the size of cells. A difference might be in this way: If a drone-comb and a worker-comb were put side by side in the same super, each of them having been in use the same number of years, and there were any noticeable difference (doubtful whether there would be), I should expect the one most promptly accepted to be the worker; because most brood would have been reared in it if both were in the brood-chamber, and when bees show any preference it is for comb with a good stock of cocoons. A difference might be shown in another way: Have none but worker-comb in the brood-chamber, a small amount of drone-comb in the second story, and an excluder between the two stories. In such a case I have known the bees to fill the worker-combs in the super and keep the drone-comb empty, probably because they wanted the queen to lay in it. But in general practise you'll find drone-comb in a super filled as promptly as worker-comb.

Use of the Bee's Sting—Increase by Dividing

1. I am sending a clipping from the Minneapolis Journal, in regard to the real use of the bee's sting. If you know anything more about it I would be pleased to hear it.

[The clipping referred to is as follows:—EDITOR.]

REAL USE OF THE BEE'S STING.

"The bee's sting is a trowel, not a rapier," said a Nature student as he helped himself to honey. "It is an exquisitely delicate little trowel with which the bee finishes off the honey-cell, injects a little preservative inside and seals it up.

"With its trowel-like sting the bee puts the final touches on its dainty and wonderful work. With this sting it pats and shapes the honey-cell as a mason pats and shapes a row of brick. Before sealing up the cell it drops a wee bit of poison into the honey. This is formic acid; without it honey would spoil.

"Most of us think the bee's sting, with its poison, is a weapon only. It is a weapon secondarily, but primarily it is a magic trowel, a trowel from whose end, as the honey-cells are built up, a wonderful preserving fluid drips."

2. My brother and I started with 2 colonies, and now we have 7 in winter quarters, all strong and in good shape. They did very poorly here last year, it being too cold and rainy. We took off about 100 pounds of honey. We wish to increase our number of colonies to 15 in the spring, by dividing. What is the best way for us to do it? Would Mr. W. W. Someford's method be all right? IOWA.

ANSWERS.—1. — good many years ago Rev. W. F. Clarke, a Canadian bee-keeper, announced as facts the ideas contained in the clipping, namely, that bees use their stings as trowels to work wax, and before sealing up each cell of honey drop into it poison from the sting. He never gave any proof for such belief, and when remonstrated with, replied, "Well, I see the bees busy in the cells, what else can they be doing?" The whole thing is silly foolishness.

2. Yes, but in working any plan of increase successfully it will be worth much to be thoroughly familiar with the principles you will learn from your text-book on bee-culture.

Reports and Experiences

Good Prospects in Utah.

The American Bee Journal is still a welcome visitor and I hope, as it deserves, that more of its many friends will become subscribers.

While the bee-keepers in the greater portion of this state enjoyed a fairly prosperous season last year, the prospects for the coming season are even more encouraging, especially in the lower altitudes, some of which were a little too dry; but the unusually heavy precipitation of snow and rain insures an abundance of irrigation water, which in turn will insure a good honey-flow. E. S. Lovesy.

Salt Lake City, Utah, March 5.

Indications for a Honey Crop.

The indications for a honey crop the present season are very fine for this portion of California. We have had steady, soaking rains and vegetation is farther advanced at the present time than it usually is a month later. The bees are gathering some honey and much pollen from the early flowers, and brood-rearing is going on rapidly, some colonies having 7 or 8 frames of brood, and some are already making preparations to swarm, having queen-cells built.

The crop last season was fairly good, but the price, as usual, was very low. After the long, dry year of 1904, the colonies were weak, but they soon built up, and my crop averaged 110 pounds of extracted honey per colony.

There is a good deal being written about gentle bees, non-stingers, etc., but, with my present location, give me the bee with the hot business-end. As long as they protect themselves from the depredations of thieves and looters, I can stand a few jabs from their little sabers while they are keeping in practice.

Although I am one of the "boys of 61," and am 65 years of age, I have worked nearly every day during what we **call** winter. F. C. Wiggins.

San Diego, Calif., Feb. 20.

He's "Agin" the Japanese.

On page 138 mention is made of Japanese coming to Texas to engage in bee-farming and silk-culture. I do not approve of that class of people coming to this country. I live in California, right among them, and I know what they are. They are good workers, but totally unreliable. Besides, they live in any kind of hovels and live on the most meager kind of food, so they can afford to work cheap, and the whites are either driven out or compelled to live likewise. We want a class of people that will raise our standards, not lower them. Last, but not least, they are a class by themselves, and will never mingle and intermarry to build up a future race of Americans as some other foreigners have.

Let us draw our colonists for Texas from another source. There are enough to spare from our crowded cities to fill the whole of that State. They would not have to learn the language, and, therefore, you would get subscriptions to your paper sooner! M. D. Price.

Arroyo Grande, Calif., Feb. 19.

Fine Prospects for Honey.

Prospects for a honey crop are fine. Bees are in good shape, and are getting new pollen. Grant Anderson.

Sabinal, Tex.

Not a Heavy Rainfall.

Bees are in good shape, and for the present seem to be getting considerable nectar from the flowers now in bloom, but the weather is such as to keep the bee-keepers guessing on the future, as the rainfall has not been heavy enough to afford much hope for a crop. The bees are strong now, and will probably begin to swarm within a month on the strength of last year's stores and what honey they can get afield; but unless there is considerable rain during the next two months, they will slacken up about the time the surplus should begin to come in.

J. B. Whitaker.

Fallbrook, Calif., Feb. 19.

CONVENTION NOTICES.

Utah.—The Utah Bee-Keepers' Association will hold their spring convention in the Mayor's office, in the City and County Building, April 6, at 10 a.m. Among other questions of interest to be considered will be the best approved methods for producing and disposing of bee-products. All are cordially invited to come and bring their friends.

G. E. GARRETT, Sec. E. S. LOVESY, Pres.

Michigan.—The Northern Michigan Bee-Keepers' Association will hold its next annual meeting at Kalkaska, Mich., Wednesday and Thursday, April 4 and 5, 1906. Generous prizes are offered for certain exhibits. W. Z. Hutchinson, E. D. Townsend and Geo. H. Kirkpatrick, the President, will read papers. Special hotel rates are given by the Manning House. Send to the Secretary for a copy of the announcement, list of prizes offered, etc. Then attend the convention if you possibly can do so. IRA D. BARTLETT, Sec.

East Jordan, Mich.

North Texas.—The annual meeting of the North Texas Bee-Keepers' Association will be held at Blossom, Tex., Wednesday and Thursday, April 4 and 5, to which all bee-keepers are invited. There will be no hotel bills to pay. On the program are the following: "Best Races of Bees," W. H. Laws and Dr. R. P. Davies; "Foul Brood," Louis H. Scholl; "Which is the Best for North Texas, The Production of Section or Bulk Comb Honey?" R. C. Abernathy and Dr. R. P. Davies; "Extracted *vs.* Comb Honey for North Texas," R. C. Abernathy and Dr. R. P. Davies; "Is a Bee-Keepers' Association a Necessity?" W. H. White; "Is the Combining of Bee-Keeping with Poultry-Raising Profitable?" L. C. Lancaster; "Best Honey-Plants of North Texas," J. M. Haygood; "Best Hive for North Texas—8, 10 or 12 Frame," W. H. White; "How Best to Manage Our Bees for the Greatest Profit," Question-Box. W. H. WHITE, *Sec.*

Pennsylvania.—All bee-keepers and other persons interested are invited to meet in the second annual convention of the Pennsylvania State Bee-Keepers' Association, at State College, in Centre Co., Pa., March 29 and 30. The first session will be on the evening of the 28th, and on the 30th there will be two sessions. Among the persons who will be present and address the meetings on one or more topics are the following: Prof. E. F. Phillips, in charge of Apiculture, of the U. S. Department of Agriculture, Washington, D. C.; E. R. Root, E. L. Pratt, R. D. Barclay, L. R. White, of the Division of Zoology, Harrisburg, Pa.; Prof. H. A. Surface, President Pennsylvania Bee-Keepers' Association, and Pennsylvania State Zoologist, Harrisburg and State College, Pa.; Rev. D. L. Woods, and others. You are invited to come, ask questions, take part in the discussions, and propose topics for discussion. A detailed program is being prepared and will be published soon. There will be an exhibition of bee-keepers' supplies and appliances, different kinds of hives, honey and honey products, and different races of bees. In the apiary of the President, at the State College, there are all races of honey-bees kept on the American continent. Manufacturers of supplies or dealers are invited to send material for exhibition, and all room needed for this will be given free of charge. The College will give free rooms for meetings and also for lodging, and the expense while there need not be over $1.00 per day. The railroad companies have given excursion rates upon two plans: 1st, East of Oil City and Pittsburg, Pa., a fare of one and one-third for the round trip will be given to persons presenting card orders for excursion rates at the time of buying their tickets. These card orders will be sent free immediately by addressing either the Secretary or the President. Write at once. One must be used for each railroad system over which the excursionist is to travel, and West of Oil City and Pittsburg, Pa., the rates are to be given by certificate plan—the purchaser paying full fare for his ticket in going, and at the same time asking for a certificate (not a receipt) which will be "O.K.'d" upon presentation to the President at State College, and will then be good for purchasing return passage at one-third the regular fare. There will be at least 2 illustrated lectures, one of which will be the President's annual address on Thursday evening, the 29th, which will also be the session for the election of officers, and the other illustrated lecture will be that of Dr. Phillips, from Washington, probably Friday forenoon, the 30th. An interesting feature will be a demonstration of practical methods of handling bees before audiences by E. R. Root. All interested persons are invited to attend and bring their friends. Write at once to the undersigned for free card orders for excursion rates. H. A. Surface, State College, or Harrisburg, Pa., or

Muncy, Pa. D. L. WOODS, Sec.

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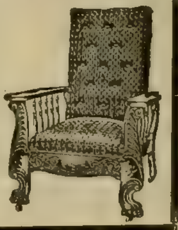

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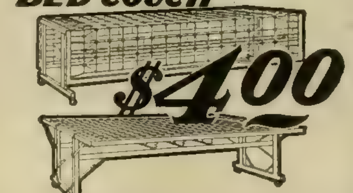

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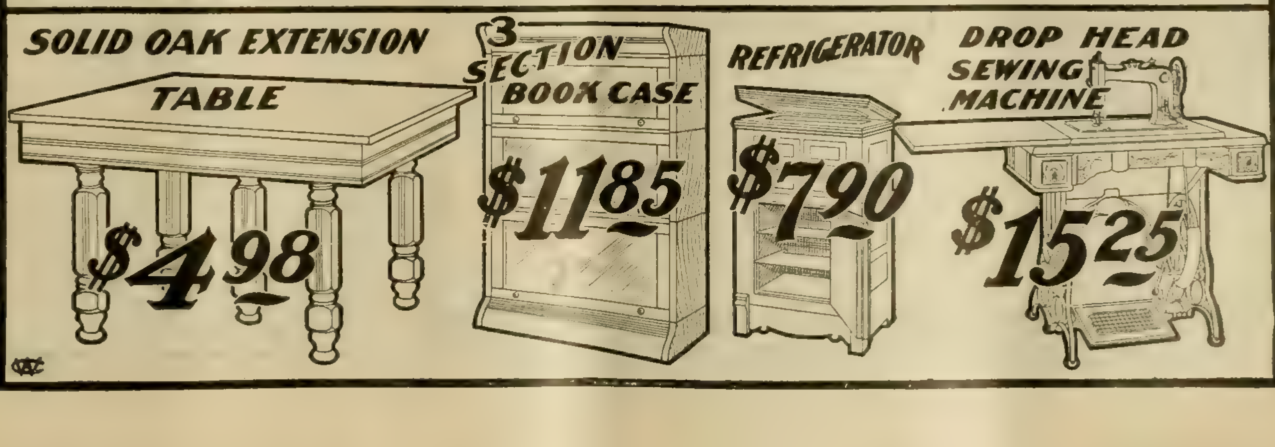

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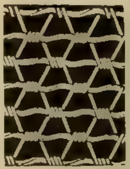

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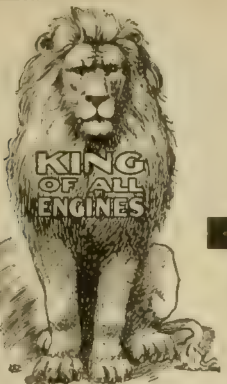

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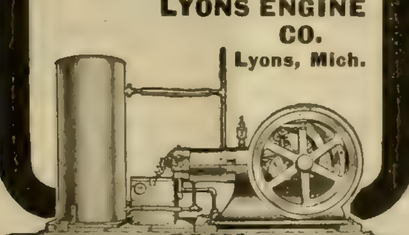

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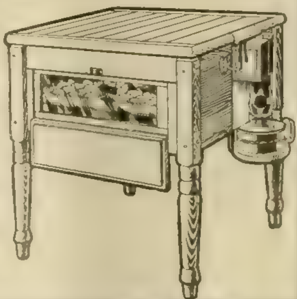

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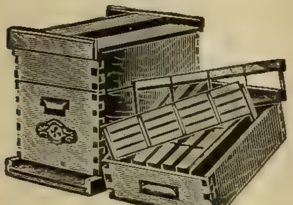

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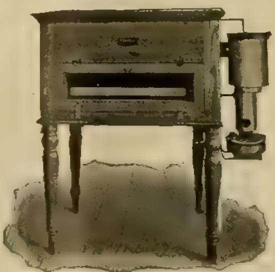

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Honey and Beeswax

CHICAGO, March 7—Choice white comb honey is not plentiful, and it sells upon arrival at 15c per pound Other grades of comb are not in demand and sell at uncertain prices of 10@14c per pound. Choice white extracted, 6½@7½c; amber grades, 5½@6½c. Beeswax, 30c per pound.
R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
GRIGGS BROS.

INDIANAPOLIS, Feb. 2.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, March 10—The call for honey is falling off, and while the supply is not abundant, yet it equals the demand. We quote fancy white, 16@17c; amber, 13@14c. Extracted, white clover, 7@8c; amber, 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, Feb. 19.—The demand is fairly good for better grades of white, and while the near by crop is fairly well cleaned up, new arrivals are now coming in from Cuba, besides several cars have been shipped on from California. We quote fancy white at 15c; No. 1, 13@14c; No. 2, 12c; amber, 11c; buckwheat, 10@11c. Extracted in fairly good demand, especially California, of which there is abundant supply. We quote white sage, 6½@7½c; light amber at 6@7c, according to quantity; buckwheat at 6c per pound; Southern at 50@60c per gallon, according to quality. Beeswax steady at 29@31c.
HILDRETH & SEGELKEN.

CINCINNATI, March 8.—The demand for comb honey has brightened considerably since we last reported; in all probability, by the close of April, the market will be bare of comb honey. This will be encouraging to the bee-keeper. Nevertheless, to advance the price is out of the question; therefore, we continue to quote fancy white comb honey at 14@15c. The demand for extracted honey does not come up to our expectations; we quote amber at from 5¼@6½c, according to the quality; fancy white, in 60-lb. cans, 8c. Choice bright, yellow beeswax, 30c.
THE FRED W. MUTH CO.

DENVER, Feb. 5 —Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, March 16—The supply of comb honey is not very large. Demand is light, best 24 section white selling at 3.25 per case, amber at 25@50c per case less. Extracted, white, 6½c per pound; amber, 6c. Beeswax, 25@30c. We look for an increased demand in the near future.
C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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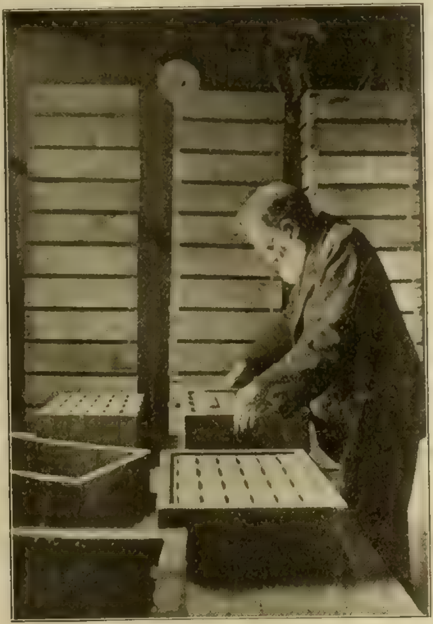

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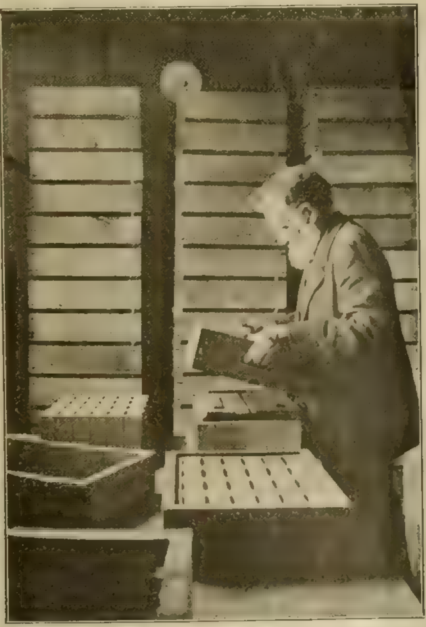

DR. MILLER LIFTING OFF THE
T-Super.

(See pages 270 and 271.)

THE AMERICAN BEE JOURNAL

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Contents of this Number

Illustrations—

Apiary of O. K. Rice.......... 1st Page
Apiary of W. L. Smith.......... 270
"Big Bill" and "Little Bill"—Two Bee-Inspectors.......... 275
Dr. Miller Lifting Off a T-Super.......... 1st Page
Dr. Miller Pushing Sections Out of a T-Super.......... 1st Page
Smith, W. L.......... 1st Page
Souvenir Postal Card from Frank Benton..... 270

Editorial Notes and Comments—

Care of Empty Combs Left by Dead Colonies.. 269
Hives in Which Bees Have Died.......... 269
Honey Left by Dead Colonies.......... 269
Newspaper Declines to Correct Apiarian Errors 269

Miscellaneous News Items—

Apiary of O. K. Rice.......... 270
Apiary of W. L. Smith.......... 270
Benton Souvenir Postal Card.......... 270
Illinois Bee-Keeping.......... 270

Contributed Special Articles—

Dadant Methods of Honey-Production (No. 7) 271
Right Kind of T-Super All Right.......... 271
Temperature Inside the Winter Cluster of Bees 272

Mr. Hasty's Afterthoughts—

Canadian Smoker-Fuel.......... 273
Check on Swarming.......... 273
Feeding Mulberries.......... 273
First Work of Bees.......... 273
German Chunk Honey.......... 273
New Table of Contents.......... 273
Sister's Experiences.......... 273
Soft-Wood Fences.......... 273
Unsettled Bee-Brush Question.......... 273
When Bees Get Short of Winter Stores.......... 273
Wide Frames vs. T-Supers.......... 273

Our Sister Bee-Keepers—

Bees in Fine Condition.......... 274
Bees Seize and Hold a Village.......... 274
Died Several Years After Being Stung.......... 274
Discouraging Season With the Bees.......... 273
Sister's Greeting and Clippings.......... 274

Canadian Beedom—

Detecting Glucose in Honey.......... 274
More About Mr. Lowey's Winter Bee-Repository.......... 274
Report for Season of 1905.......... 275

Southern Beedom—

Preventing the Introduction of Foul Brood... 275
"Those Bee-Problems".......... 275
Two Foul-Brood Inspectors.......... 275

Dr. Miller's Question-Box—

Best Bee-Book and Comb-Honey Hive.......... 276
Caucasian Bees.......... 276
Changing Queens.......... 276
Color of Comb Honey.......... 276
Feeding Bees.......... 276
Getting Rid of Ants in Hives.......... 276
Mice in Hives.......... 276
Moving Bees.......... 276
Preventing More Than One Swarm.......... 276
Sweet Clover Seed.......... 277
Taking Out Cellared Bees for a Flight.......... 276
Throwing Out Bee Larvæ and Pupæ.......... 276
Transferring Bees.......... 276
When to Take Out Cellared Bees.......... 276

Convention Proceedings—

Good Bee-Cellar.......... 277
Wisconsin State Convention.......... 277

Reports and Experiences—

Few Dead Bees So Far.......... 278
Likes the Right Kind of T-Super.......... 278
Value of Bees to Alfalfa.......... 278

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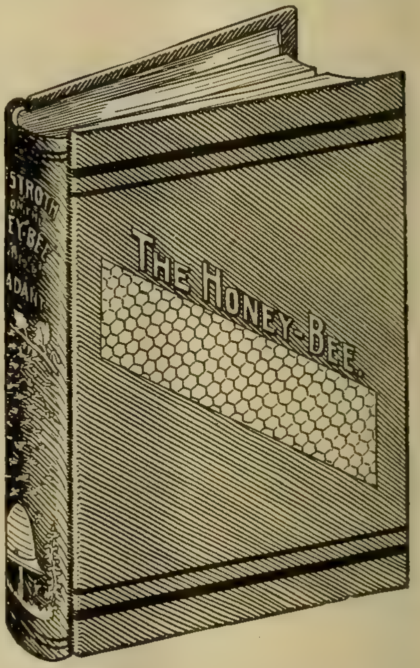
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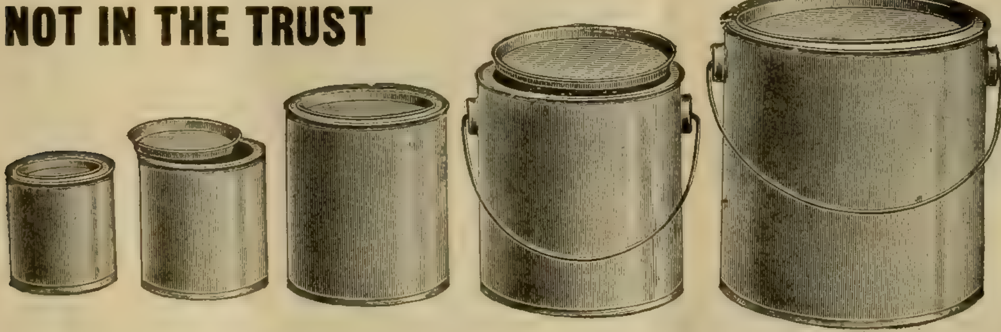

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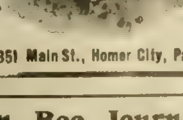

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GEORGE W. YORK, Editor CHICAGO, ILL., MARCH 29, 1906 Vol. XLVI—No. 13

Editorial Notes and Comments

Hives in Which Bees Have Died

Every spring finds all over the land hives in which bees have died. Some colonies have died of diarrhea, some have been queenless, some have had drone-laying queens. Whatever the cause of death, the hives have value, and can be used to receive swarms. If they have movable frames, the combs have a cash value for future use. The combs in box-hives can at least be melted to obtain the wax, and should not be left a prey to the wax-moth.

Don't add to the loss of bees by allowing anything that is left to be lost.

Honey Left by Dead Colonies

"Is it safe to feed to the bees honey that is in combs left by colonies that have died?" This question is sure to be asked by a number of anxious beginners. When the weather becomes warm enough for bees to fly daily, it is safe to feed anything in the line of sweets short of actual poison, unless the honey comes from colonies that had foul brood, and honey left by dead bees is all right at any time. Very often the honey is robbed out by the bees before the bee-keeper discovers what is going on, and this method of disposal is not a bad one. It has at least the merit of requiring no labor on the part of the bee-keeper. Another way, and a good one, is to leave the honey in the combs till they are given to a swarm.

Care of Empty Combs Left by Dead Colonies

The combs left by colonies that failed to pull through the winter should not be left uncared for until swarming-time. A swarm is pretty sure to desert if put into a hive containing a lot of dead bees in a wet mass on moldy combs, but is attracted by an outfit of empty combs in good condition. The first thing to be done—and the sooner it is done the better—is to get out of the hive all the dead bees. One way is to sweep the bees off the combs with a common house-broom. One person handles the combs, and another the broom. A comb is laid flat on the ground and swept, turned over and swept on the other side, and then put into a hive which has been carefully cleaned out, and then the other combs are cleaned the same way.

So long as the weather remains cool, such combs may be left safely outdoors, but when the weather becomes warm enough wax-worms will appear, and if left long enough undisturbed they will utterly destroy the combs. Closing the hives up tight will do no good, for the eggs or young larvæ are there from the previous season. If the combs are left in a dry cellar, it will be too cool for the worms to make much headway. But there is no place where these combs are so safe as in the care of the bees themselves.

As soon as the weather warms up and colonies become strong, each strong colony can take care of a hiveful of empty combs. Put a hiveful of combs under the hive containing the strong colony, so that the bees must pass through the combs upon leaving or returning to their home. Of course, this presupposes that the bottom-boards or floors of your hives are removable, and if they are not you will do well to make them so.

It may surprise you to see how nicely the bees will clean up dirty, moldy combs. If some honey is in the combs, all the better. When the combs are well cleaned, a second hiveful of combs may be given. Put this second hiveful on top of the one already cleaned, and then set the colony over all. These combs can then be left thus till needed for swarms.

Newspaper Declines to Correct Apiarian Errors

A February issue of the Chicago Record-Herald contained some misstatements of facts regarding bees and honey, and several of our readers called our attention to them. We at once wrote a courteous correction, and here is the reply we received from the Record-Herald:

> CHICAGO, Feb. 23, 1906.
>
> MR. GEORGE W. YORK, Editor American Bee Journal—
>
> *Dear Sir:*—The editor directs me to acknowledge receipt of your favor of the 22d inst., to thank you for it, and to explain to you that he regrets he can not see his way clear to devoting space to making suggested corrections.
>
> The published matter to which you call attention was a reprint from the New York Sun. The errors, therefore, were the New York Sun's errors. And if the Record-Herald started out to correct all material errors in other newspapers, it would have to abandon, necessarily, its proper function—the publication of news.
>
> Thanks again for your letter.
>
> Yours very truly, MANAGING EDITOR.

Isn't it a little strange that the great Chicago Record-Herald could find room for the misrepresentations, and yet could not allow space to correct them?

As we look at it, when the American Bee Journal copies errors from other sources, those errors in a measure become its own, and we feel in duty bound to correct them in the American Bee Journal so far as possible. We suppose if the New York Sun published as a news item that President Roosevelt was dead (when he wasn't), and the Chicago Record-Herald then copied the statement, it would not correct it just because it was an error of the New York Sun! And that is modern newspaper procedure.

Well, we are glad we don't have to run the American Bee Journal in that way.

Miscellaneous News ✣ Items

Editor Ernest R. Root, of Gleanings in Bee Culture, made us a brief office-call when in Chicago last week.

* * *

The 1906 Convention of the National Bee-Keepers' Association will be held in Texas, Nov. 8, 9 and 10. The exact place will be announced later. We hope that nothing will arise to change it again, as was the case last year.

* * *

Apiary of O. K. Rice.—When forwarding the small photograph, Mr. Rice wrote as follows:

> I am sending you a picture of myself and wife, taken by my oldest daughter last summer, just as I was working with the bees. It shows only a few of the 30 hives in the orchard, with the winter-cases still on, but the roof does not go down to them, as they are 2 stories high.
>
> O. K. Rice.

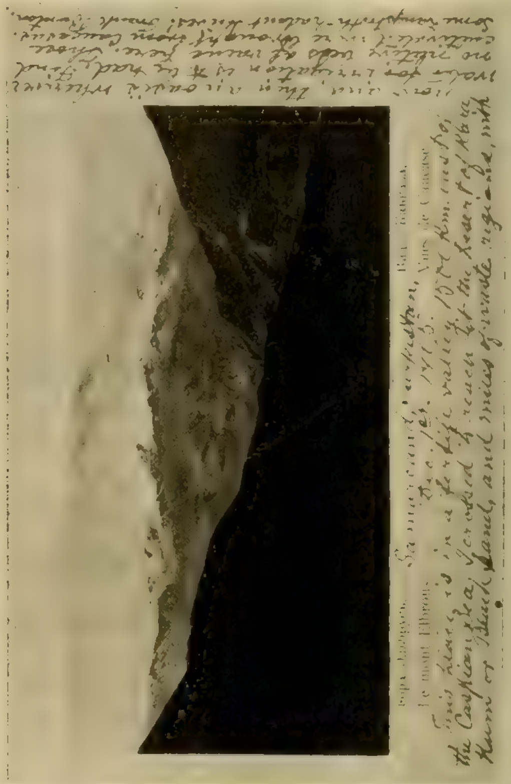
* * *

Apiary of W. L. Smith.—On the first page appears a picture of Mr. Smith, and below is one of his apiary. He wrote us as follows when sending the photographs:

> The picture herewith is of my "Virginia Apiary," which is on a porch about 9 feet from the ground. I am standing about the middle. To my right is Arthur Smith, and at the left is Purcie Smith, my nephews. You see I am an old bachelor, and have to borrow my brother's boys to help me out. At the rear is my residence. There is a bridge extending across to a workshop, which has a porch along the back, with bees on that also. There is also a platform extending around the house with 7 hives.

> I have been handling bees in modern hives about 11 years. Before that time I made cabinet hives with glass to look through, and glass-top drawers above. I have 22 colonies of bees, mostly Italians. I have 1 Carniolan, 1 Albino, 1 Holy Land, and 2 Cyprian colonies, but I do not find much difference in their tempers. I can handle one kind as well as the other. We sleep on the platform with the bees any night in summer. My honey crop varies. Some years I get 60 pounds per colony. Last year the frost killed the early blooms, and I did not get more than about 25 pounds to the colony.
>
> I have been making my own hives the Langstroth pattern excepting that mine are 16¼x16¼ inches, and 10 inches deep outside. I use sections 3⅝x5x1¾. But lumber has gone up so high here that I have bought hives in the flat for less than the lumber would cost me. W. L. Smith.

Mr. Frank Benton, Apicultural Investigator of the United States Department of Agriculture, as most of our readers know, is on a journey to Europe and Asia for the purpose of looking up new races of bees, and also honey-plants. The reproduction herewith is from a souvenir postal card sent to Mr. C. P. Dadant, President of the National Bee-Keepers' Association. The scene shown is nearly 1000 miles east of the Caspian Sea. No doubt Mr. Benton finds his journey quite frequently perilous. He will have an interesting story to tell when he returns to this country.



* * *

Illinois Bee-Keeping.—Secretary Stone, of the Illinois State Bee-Keepers' Association, sends us the following:

> I sent out 360 letters to as many of the Crop Reporters of the State, and through their kindness received back from about 200 of them the names of 1131 bee-keepers.
>
> The number of colonies of bees reported with 873 names was 20,361, or an average of 23⅓ colonies per name. With the same average for all the names received through the Reporters, and by the kindness of the Editor of the American Bee Journal—viz., 2222, after deducting 94 names duplicated—we would have a total of 51,106 colonies; and if these should produce a common average of 40 pounds per colony, we would have a total of 2,055,520 pounds of honey annually.
>
> The remarkable fact that in getting together all these names from about 200 different persons, and only 94 duplicated names, goes to prove that we have only a small proportion of them; and, further, we were told at our last convention by a member, that he had counted 100 bee-keepers in his county, and he was sure he could count that many more; and yet we have only 5 or 6 given by the Reporter from that county. So we must conclude that we are not able even to guess at the number of colonies or bee-keepers in our State. Jas. A. Stone, *Sec.*

* * *

The March Number of Irrigation—the official organ of the Colorado Bee-Keepers' Association—contains no bee-matter except a short note of greeting from the new Secretary, G. J. Tomlin. If he is as good a man as the old Secretary, the Association is to be congratulated.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Contributed Special Articles

Right Kind of T-Super All Right

BY DR. C. C. MILLER.

On page 160, F. Greiner mentions my calling attention to the slight sagging of bottom-bars in wide frames, and says:

"This shows that Dr. Miller has had some experience along this line. It must be he has used wide frames, and the wonder is that such an insignificant matter could induce him to abandon the wide frame for the most worthless super ever invented."

When so bright a man, and so good a bee-keeper as F. Greiner, puts me down as doing what evidently appears to him a very stupid thing, I can but attempt to give my reasons for thus doing, in hopes to reinstate myself in his good opinion.

In the first place, Mr. Greiner, let me plead not guilty to the charge of abandoning the wide frames on account of the sagging of the bottom-bars. I don't think I would ever have abandoned them for that reason.

You are right in supposing that I have had experience with wide frames. I used them by the thousand, used them for years, used them with much satisfaction, and only abandoned them when I found something I could use with more satisfaction. According to your arraignment of the T-super, I don't see how you could do other than to discard it. You say:

"Some bee-keepers who have had no experience with wide frames are afraid there may be difficulty (?) in taking the filled sections out of them. If they had had any experience, they would have found it a great deal easier than to take the honey from T-supers, and just as easy as taking the sections out of the section-holders with no top-bars."

Well, there is experience and experience. Whatever the quality of my experience, I'm sure it has not been lacking in quantity, both with the wide frame and T-super. I've taken tons of sections from each. In the years that I used wide frames I made advancement in methods of taking sections out of them, but at best could not take them out as safely or as rapidly as I can out of T-supers. Mind you, I don't say *you* can't work more rapidly with wide frames than you can with T-supers—I'm only saying how things are in my locality. You say:

"There is no super on earth that gives us more trouble than the T-super. I find it impossible to 'get the sections out' without setting a large percent to leaking."

If I should set to leaking a single section in taking 10,000 sections out of T-supers, I should think I had been extremely careless. Neither is that because of expertness gained from long experience. In the course of the past few years, three different raw hands have been set to work taking out sections, each of them taking out thousands, and not a section was set to leaking by either of them, except in one case, when one of them let a whole super fall to the floor, and then there was leaking by the wholesale. Speaking of T-supers, you say:

"I have used them for 20 years, and have followed the instructions given by many on how to empty a super, but have not yet learned the trick, or a better way than carefully to remove one section after another with the super right side up and follower removed. The difficulty lies in loosening the section from the T-tin, which can not always be accomplished without cracking the honey."

I never undertook to empty a whole super in the way you indicate, but occasionally have taken out a section or two, and if that's the best way in your locality, I don't wonder at your rejecting the T-super. I think I could work twice as fast with wide frames. It's a ticklish thing to loosen the section from the T-tin, and no matter how slowly I worked I should expect to crack a lot of sections. But I don't loosen the section from the T-tin. I turn the super upside down, with a push-board over the sections I push the sections down, after having pushed down the follower, and lift off the super, leaving the sections in a block, T-tins and all. Then, instead of loosening the sections from the T-tin, the T-tins are lifted off the sections. Five seconds is sufficient time to lift off the 3 T-tins, and the greenest hand can not crack a section in so doing. In the worst cases of gluing, it takes a little coaxing to lift off the T-tin, but there is no danger of cracking the sections.

You speak of the trouble with bee-glue, and of sending me a sample. I didn't know till reading your article from whom the sample came, but the piece from the T-super was bad beyond anything, I think, I ever had. Now listen:

With me there is more glue in wide frames than in T-supers. I can easily believe it is just the reverse with you, and I think I understand why. I think you are a buckwheater, and when buckwheat is on, glue is so plenty that the bees not only fill all cracks with it, but plaster it plentifully on any exposed surface. My surplus is practically all from white clover, and at that season, although I'm counted to be in a gluey region, the bees have no more glue than they can use in filling cracks; so there is no glue deposited on the exposed top-bars and bottom-bars. The earliest supers scarcely need scraping, with T-supers, while with wide frames there will be lines of glue packed in, top and bottom, because there are cracks there that are not in T-supers. Yet even if glue were worse with T-supers, that would not counterbalance the advantages, especially the advantages of filling and emptying.

Now, Mr. Greiner, I've tried to clear my position, and you'll not any longer think that, *for me*, the T-super is "the most worthless super ever invented," will you?

Marengo, Ill.

❋

7—Dadant Methods of Honey-Production

BY C. P. DADANT.

If the reader has noted what I have previously written on our method of artificial increase, he will readily understand that we had no desire for natural swarms. We have several reasons for this. In the first place, as stated before, the natural swarms, if they come at all, will be from those colonies which would be most likely to produce the largest amount of honey. We have no control over the time of issue or over their number. They may issue at a time when we are very busy—they usually do, for the honey season is always a busy season. Neither are we alone in this matter. Many apiarists are also farmers or business men and must be away from the house during the greater part of the day, and would surely prefer to decide for themselves as to the number of colonies of increase, and the time to make that increase. Besides, there comes a time when we think we have enough colonies of bees, and want only honey. Thus, if a method may be devised by which we can almost entirely avoid natural swarming—avoid it so that the number of swarms issuing in average seasons will be too small to make it worth while to watch the bees—we have gained an immense point. No one has so far been able to claim an absolutely infallible method, neither is there any such thing as an absolutely non-swarming hive, but with a certain management the number of swarms is reduced to the minimum.

In two seasons, some years ago, an out-apiary of 87 colonies, at the home of a friend (Mr. P. Champeau), harvested 13,000 and 12,500 pounds of honey, or a total of 25,500 pounds in the two seasons; and in the same length of time the number of swarms was only 5. Three colonies having died during the winter between those two seasons, the total increase was only 2 colonies. I trust the reader will not take this as an average of results, for we have many bad seasons, but it shows what may be done in the way of large crops and reduced swarming when all is favorable.

Connected with the prevention of swarming is the use of large hives, both in the brood-chamber and the supers. This has been our hobby for over 30 years, but it is a hobby which is well sustained by facts.

The manner in which we became convinced of the superiority of large hives has been mentioned by me in the bee-papers in years past, but good things will bear repeating.

We began with comparatively small hives, mainly the 8-frame Quinby and the American. Then we began to manufacture 12-frame hives, for the purpose of trying side-storage, which, by the way, was discarded. A friend of ours made some 16-frame Quinby hives, in which he had planned hiving three swarms each, but his pet scheme was not practical and he failed and sold us the hives. We used them 10 or 12 years for single colonies.

Then we had an apiary in charge for several seasons, of about a hundred 10-frame Langstroth hives. We finally settled on a 9-frame Quinby hive with 2 divisions-board, which was later changed to 10 frames, with one division-board. By trial, side by side, of large hives with wide supers, and small hives with narrow supers, we were convinced that the large hive was the better. Why? Because the large colonies filled their large supers just as quickly as the small colonies filled their small supers. Or, in other words, a colony having 10 frames and a dummy or division-board filled a super 16 inches wide as quickly as a colony with 8 frames filled a super covering the 8 frames, or 12 inches wide. Now, please bear in mind that this does *not* take place in *every instance*. But when we have good, prolific queens in our colonies, this will prove true in the majority of instances during good seasons. Our trials were not made on 8 or 10 hives of a kind, but on hundreds of each kind.

I see, in some European papers—I will not name them for fear of hurting some feelings—that experiments are conducted and conclusions reached *with 2 colonies*. Some of those experiments would give an entirely different result, if they were conducted on from 20 to 50 colonies; and they would be still more conclusive if they were conducted in different apiaries located at spots giving a different crop.

I have stated that large hives give large crops. Now here is our explanation of the cause; allow me to quote Mr. Langstroth, for I cannot put my meaning in better words, and it was his ideas which prompted us to try different sizes of hives:

"Many hives cannot hold one-quarter of the bees, comb and honey which, in a good season, may be found in large ones; while their owners wonder that they obtain so little profit from their bees. A good swarm of bees, put into a diminutive hive, may be compared to a powerful team of horses harnessed to a baby wagon, or a noble fall of water wasted in turning a petty water-wheel. As the harvest of honey is always in proportion to the number of bees in the hive, and as a large colony requires no more labor from the apiarist than a small one, the hive should afford the queen sufficient space to deposit all the eggs which she is able to lay during 21 days—the average time for an egg to be transformed into a worker. Besides, it should contain a certain amount of food, honey and pollen."

The size of the hive must, therefore, be figured according to the abilitiy of the queen to fill the cells with eggs. It was upon this that my father based the experiments which practice confirmed. He was not content with experimenting with Quinby and Langstroth hives of from 8 to 16 frames—he even tried hives with frames 18x18 inches, which, I will hasten to say, proved a complete failure. They were too large.

Although many leading apiarists disagree with us upon the question of large and small hives, they do not disagree upon the idea evolved. All those who have investigated agree that, in many instances, the queens can fill with eggs as large hives as we use, and that in those instances large hives are good; but they insist that the hive to be used must be small enough to accommodate only average queens, preferring to crowd the best queens rather than give too much room to the poorer ones. That is all the difference. We beleive in placing our aim at the best, trying to achieve a result allowing the development of the best, which in most cases secures the best, as we have proven to our heart's content, by constant success.

Hamilton, Ill

Temperature Inside the Winter Cluster of Bees

BY G. M. DOOLITTLE.

On page 123 will be found some questions asked by "Wisconsin," regarding the temperature inside the "brood-nest," and answers by Dr. Miller, all of which are very interesting to me. As I have conducted some experiments along this line, I will give "Wisconsin" the benefit of the same, and I think others will be interested in the matter also.

Dr. Miller thinks it strange that he cannot find this matter indexed in his bee-books, and I think it strange also; but as far as I remember none of the books treat on this matter, although I think it one of exceeding interest, and one of considerable importance also.

Some years ago I looked for this matter through all the literature on bees which I had, and all I could find on the subject was where Quinby in his "Mysteries of Bee-Keeping Explained" declared that the bees in the inside of the cluster during winter are as lively as in summer, while those on the outside were somewhat stiffened with the cold. This I found to be a fact. It was at the time the subject of bees hibernating during winter was under discussion, some claiming that they *did* hibernate, while I, and others, did not believe it. So, to prove that Quinby and myself were correct, I went to a colony one morning when the mercury was at 15 degrees below zero, and suddenly jerked up one of the frames which went down through the middle of the cluster, when I was met by a teacupful or less of bees that took wing and darted at me to sting. Of course I lowered the frame back as soon as possible, exclaiming to myself as I did so, "Quinby was right! No hibernation there!" And I would say the same to those who are now talking of resurrecting that old idea of bees hibernating. Nothing can be said to hibernate that is able to get a "summer motion' on so quickly as can the bees in a cluster in mid-winter.

Of course, the bees at the outside of the crust forming the cluster were off, and slow to move, as Quinby said, but as soon as this crust was passed the rest were lively enough to "make it hot" for me in short order, even on a 15-degrees-below-zero morning.

A little later on I found these words in one of the bee papers: "Now, when bees are massed together in a cluster during winter they keep up an animal heat that keeps the whole cluster from freezing." And in another paper I found these words: "Not one of our entomologists can tell us anything reliable about the winter temperature of a bee-hive, or the inside of the cluster of bees." This last made me resolve that if such was the case, it was time that some one found out, so I purchased, at a high price, a spirit thermometer said to be perfectly correct in its readings. This I slipped down into the center of a good colony of bees which occupied a sphere about 10 inches in diameter. This thermometer registered cold as well as heat by having two spirit balls and two steel bars, or registers, one on the heat side and one on the cold side. These registers were set at the time of placing it in the cluster at the point where it stood when taking from my coat-pocket, which was about 48 degrees. The thermometer was placed in the cluster at about 3 p. m., and left over night, during which time the mercury outside sunk to nearly zero.

Upon taking it out the next morning I found that a temperature of 87 degrees had been registered of the heat side, this showing that through the disturbance caused by putting the thermometer in, a temperature of that amount had been reached at the highest point, while I had nothing satisfactory as to the lowest point reached during the night.

I then took the thermometer to the house and put it near the stove till a temperature of 110 degrees was reached, when the steel registering bar on the cold side was drawn down so as to register accordingly. I then put a piece of iron on the stove till it was fully as warm as the 110 degrees, when this iron was placed in a box, and one end of a piece of flannel cloth was tucked down over and about this warm iron. Then I laid the thermometer on the flannel, when the other end was brought up over this, and the box closed. I then had it fixed so that I could ascertain just how cold it got while the thermometer was in the cluster, as I would now obtain the coldest register, instead of the warmest, as before.

During the afternoon the weather became severe, and continued so for 5 days, during which time the mercury outside went as low as 16 below zero. When the storm abated the thermometer was taken out, and I found that the coldest point reached inside the cluster during those 5 severe days was 63 degrees above zero. In this way I experimented on several colonies until I found that the average temperature of a good colony of bees in the middle of the cluster is 64 degrees, when the mercury is at zero outside the hive; and that for every 15 degrees of change from the zero point outside, the change in the cluster would vary one degree, or very nearly that. Thus 16 degrees below zero outside gave 63 degrees in the cluster; 30 degrees below gave 62 degrees in the cluster. Zero outside gave 64 degrees in cluster; 15 degrees above gave 65 degrees, and 28 degrees above (the highest it was during the time I was conducting my experiments) gave 66 degrees in the cluster.

All of the colonies were in double-walled hives with packing at the sides and on top. All know that bees can readily fly in a temperature of 45 degrees in the shade, and yet this flying temperature was exceeded by 18 to 20 degrees in the cluster of bees at all times, with a temperature as low as we rarely ever have.

But I see that "Wisconsin" wants to know what the temperature will be "above" the brood-nest. This was what I next proceeded to find out. All who have looked at a cluster of bees in cold weather know that if we open the hive so carefully that the bees are not disturbed, we will see only the pointed ends of the abdomens standing out from the center in all directions, something like the spokes of a wheel stand out, only that these abdomens are packed together as closely as it is possible for them to be, according to the number of bees that can squeeze together between the ranges of comb.

Now by placing the thermometer as close to these abdomens as I could and not hit them, I found that with a temperature of zero outside I had a temperature of 40 degrees about ¾ of an inch away from the cluster; and a temperature of 45 degrees when the mercury outside stood at 28 degrees above zero. From this it will be seen that this crust of bees really forms the hive proper, or the walls which confine the heat inside the cluster; which makes the bees really independent of the hive for their existence, only so far as it keeps the winds and storms from them. This part is one of the greatest mysteries to me there is about a colony of bees. I cannot understand how this crust of bees is able to hold the temperature inside it, so as to keep a summer heat inside, with a zero temperature outside; when it looks to me that there must be sufficient holes between the adbdomens in this crust to let the air out through them, something as water would run through the holes in a sieve. But for some reason the heat does not so go out, and, furthermore, the bees seem able to control this matter so perfectly that they can raise the heat inside this crust of bees to nearly 100 degrees above, when it is zero outside the hive, and with frost forming on the combs and cover to the hive less than 2 inches from the cluster.

Where the cluster of bees touches the hive in any place, then, of course, the hive, at that place, holds the heat in; but I have seen scores and hundreds of colonies carrying on brood-rearing successfully inside the crust of bees, during March and April, with snow on the ground, when this crust of bees did not touch the hive in any place. And another thing which has always been a mystery to me is, that the bees at the bottom of the cluster appear to be always warmer than at the top. On the principle that heat rises, and that the top of the hive is the warmest, the bees at the top of the cluster should be the warmest and most active. But such is not the case, as I have found by many carefully conducted experiments. Raise a hive up from the bottom, and the first bees will break through the crust right where you are looking. Open the hive at the top, and unless the bees at the top touch the cover of the hive, the first flying bees will come up around the cluster from the bottom, the cluster remaining in perfect order all along between the top-bars of the frames, and down at the sides as far as you can see. In fact, the very topmost bees in the crust are the last ones to start into activity, while those at the bottom are the very first. Borodino, N. Y.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

GERMAN CHUNK HONEY.

So the German idea of apicultural how-to-do is chunk honey at 25 cents a pound! Page 139.

FIRST WORK OF BEES—CHECK ON SWARMING.

I think our books and papers very generally say that the young bee's first work is at nursing. On page 140, Stachelhausen indorses another view, to the effect that the first work done is cleaning out cells—several days being spent at it. That the current view is *assumed*, instead of being proved up, is imaginable, to say the least. Some of us would wish to hear what is the nature of the proof for the new view before accepting it as a finality.

Mr. S. also thinks that the renewed demand for larval food, coming after it had been stopped once, is what checks the swarming impulse, rather than premature field-work on the part of young bees with nothing else to do. The latter seemed rather plausible to me. What's to hinder giving some credit to both?

UNSETTLED BEE-BRUSH QUESTION.

Not to be expected that the bee-brush question would be *settled* by the Canadians at Brantford, any more than by the rest of our folks. That point is likely to remain long in an every-man-to-his-notion state. Wings and feathers held up their end well. Page 142.

CANADIAN SMOKER-FUEL.

Another unsettleable question *was*—not settled—but illuminated quite a bit at Brantford—the smoker-fuel question. Jacob Alpaugh has a mixed fuel, gotten up on the principle of that famous drink which comprised—

"A little lemon to make it sour,
A little sugar to make it sweet,
A little brandy to make it strong,
A little water to make it weak."

This fuel hath planer shavings for bulk, cheapness and solidity; some rotten wood to keep it from being too solid; some bits of maple bark to hold fire and keep the thing from going out; some water sprinkled on just right to keep the fire from burning its own smoke. He says the dampening and maple bark are specially important. Some of us will still be liable to say: "The kind I use" is good enough; but perhaps some will vote it of great value to themselves, as compared with their previous fuel. Page 142.

WHEN BEES GET SHORT OF WINTER STORES.

If your bees get out of grub in winter-time you'll have to feed 'em a *man*. One man, it appears from page 145, brought a September swarm through in extra order by feeding in a large flight-box, in which bees brought home their supplies on the wing (none of your "gittin up stairs" for it). Very likely one colony saved was not enough to pay for the hours spent; but probably the experience did pay for it richly.

NEW TABLE OF CONTENTS.

Hello! Here's a new table of contents—minutely itemized, so you can find everything you want right in one spot. As I did not discover it for three weeks maybe my "Eureka" will direct some other wayfarer to it who otherwise would languish without it. Page 154.

WIDE FRAMES VS. T-SUPERS—SOFT-WOOD FENCES.

F. Greiner says he can empty 4 wide-frame supers in less time than one T-super. If we should say, "Dr. Miller, can you beat that?" we should surely have our genial mentor in a corner where his heart would forbid him to say, "I don't know."

The experience that soft-wood fences get almost entirely eaten up in the course of years should be valuable to those who contemplate going into fences. Page 160.

A SISTER'S EXPERIENCES—FEEDING MULBERRIES.

The Colorado sister who reports on page 162, gives several worth-repeating experiences. On a very slender harvest 6 colonies of goldens averaged 4 times as much surplus as the hybrid colonies did—the latter numbering 25. She finds her hybrids even worse than those recently reported about cleaning up combs and sections in the fall. Very generally refuse to take feed from inside feeders, and that, too, when they urgently need it for the coming winter's supply. And feeding crushed white mulberries, *a la* Dr. Peiro, wouldn't run with her bees. If Dr. Peiro would only give us a variety of mulberries ripening in the fall, I'm pretty sure any strain of bees could be made to take them (not upstairs, perhaps); but in ordinary mulberry season bees mostly have their ideas raised above fruit-juice. And in the fall, who would laboriously pick mulberries when slicing up watermelons is so much easier?

Our ✣ Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

A Discouraging Season With the Bees

DEAR MISS WILSON:—I promised you once that I'd write you about my bee-keeping, but you see I had such a very unsatisfactory season last year that I felt as though I had nothing good to report. We like to report good things, do we not? But failures have in them an element of defeat, and we would rather not speak of our defeat. I wouldn't.

Up to last season I had always had pretty good success with my bees—nothing to boast of, but just fairly good; but the past summer I got very little honey, and had to feed part back and about 800 pounds of sugar besides. That's something new to me. I always used to congratulate myself when I read of others feeding their bees, on my good fortune in living so near the Mississippi River, where the bottom-lands always supplied enough pasture to provide the bees with sufficient stores; now I know how to sympathize with the sugar feeders; especially with those having no regular feeders, but who have to go around and hunt up all sorts of kettles and pans, and borrow them of the neighbors and farmers, and then have to lug them back! For, unfortunately, I have no horse; I use the train to take me to and from my out-yard.

I prepared something over 185 colonies for winter. I work for comb honey during the white honey season, and then put on an extra brood-chamber, which I leave on until the beginning of the white honey-flow, when I put on the supers with sections. The past season, however, I worked quite a few colonies for extracted honey, but I do not like it as well as working for comb honey, and if I could manage a team better I'd get some horses to haul the comb honey home, and work almost wholly for comb honey.

The extracted honey I leave at the out-yard, and ship it to market from there.

I want to wish you success in your wintering and a good honey season, you and Dr. Miller. I suppose you are nearly through with your winter work and almost ready for spring. Cordially yours,

Cassville, Wis., Feb. 15. MATHILDE CANDLER.

We are exceedingly obliged to you, Miss Candler, for so good a letter, even if it is so largely occupied with recording failures. We all have "ups and downs," but it is ever so much pleasanter to tell of the "ups." You have now given us the "downs;" we shall hope for the "ups" from your pen in the near future.

Bees in Fine Condition

We have 8 colonies of bees in fine condition. We had 10 colonies last summer, but one died from being queenless, and one the Hallowe'en sports stole and emptied the bees out on the road. They got about 25 pounds of honey. Last year was the worst for honey since we have been keeping bees. I have been intending to write to the Sisters' department for a long time, but have neglected to do so. I always turn to that page first. MRS. OTTO C. HOTZE.

Fleener, Ind., March 12.

A Sister's Greeting and Clippings

DEAR MISS WILSON:—Thank you very much for getting in my chat with the Sister's in such nice shape. Also, for sending us all so lovely a New Year greeting. As the day happens to be my birthday, I intend to appropriate an extra share of the good wishes.

I enclose a couple of clippings that may be of interest to you.

With kindliest appreciation of your efforts on behalf of "we sisters," and assuring you of very hearty co-operation on my part, and affectionate greeting for the New Year, which I trust will be blessed to us *all*—those who win and those who fail—and particularly thanking you for "Sister Ruth's" beautiful poem, I am,

Cordially your friend,
FRANCES E. WHEELER.

The clippings sent by Miss Wheeler are as follows, both taken from the Stock Farmer:

BEES SEIZE AND HOLD A VILLAGE.

A great swarm of bees attacked, seized and held until late in the afternoon the village of Weston-on-Trent, England. An attempt to occupy some tenanted hives having failed, the defeated party made matters lively throughout the remainder of the day. The villagers were compelled to close their doors and windows, as the bees went for everything within reach. Six fowls were stung to death.

DIED SEVERAL YEARS AFTER BEING STUNG.

Mrs. George Danner, wife of a prominent pump manufacturer of Allentown, Pa., and a bee-culturist, died suddenly at Hecktown, of blood-poisoning last week. Several years ago she went to the yard to pick some flowers, when a bee stung her on the wrist. Shortly afterward her hand and arm swelled to enormous proportions, and she suffered great agony. Her case attracted the attention of medical experts from all over the country; but in spite of every recognized treatment, the swelling was only occasionally partially reduced, and finally the poison reached the heart, and death resulted. She was 53 years old, and one of her sons, Norman, was a soldier in the Philippines, where he was seriously wounded.

Sudden death from blood-poisoning, caused by a bee-sting received several years previously, seems rather far-fetched. Query: Was there any real connection between the sting and the death?

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

More About Mr. Lowey's Winter Bee-Repository

FRIEND PETTIT:—I have had no experience in cellar wintering. I built my repository in 1885 (I think it was), and put about 6 colonies in—all I had then. It was damp, as it was late, and the sawdust was wet. They did not do very well. I then built the lean-to, and put a stove in, with some fire in very cold weather, and raised the temperature. But I soon increased to a hundred or more colonies. The sawdust became perfectly dry, and has remained so since. I did not need any artificial heat, so I tore down the chimney and let the 8-inch pipe through the end near the roof of the lean-to, out and down with two elbows, for a dark ventilator. The main part has a box about a foot square up through the ceiling, with a cover on top. On the underside of the cover is a notched stick hinged on, by which it can be raised or lowered. The doors between the two parts are open most of the time in mild weather, so by raising the cover on the ventilator there is fresh air coming in. In very cold weather I shut down the cover, and put something over the stovepipe, outside and inside.

You ask if I have wintered bees many winters in this. Yes, about 20, with, I think, good success. I lose a few bees every year, but I don't think it is the fault of the repository. I often have put in some that I did not expect to come out all right—neglected in the fall to see that they all had queens, etc. I found in the spring they had been queenless. I am going to do better. If I have more than I want to winter, I will double them up; look after them early in the fall, etc.

Now, as to the two methods: Having never wintered bees in the cellar I can not say which is the better. I have always thought I would like underground best, on account of controlling the temperature in the spring. I have had bees hang out so the clusters on two hives would meet, and yet they seem to come out all right—usually about April 10.

One thing about it, *it is dry*. The space under the floor is about one foot, with a poor wall which lets in fresh air. However, I wouldn't want that different. Before putting bees in, I put a thin layer of sawdust on the floor. After the bees are put out I sweep up, and all is clean. (I have put very wet sawdust in sometimes, but it soon dries out.) Up till the latter part of March, usually, I can keep the temperature at 45 to 50 degrees, Fahr.

I put the bees in last fall on Monday after the convention at Toronto; the temperature went up to 50 degrees in 24 hours, and remained so until the warm weather in January. The bees were very quiet; they then woke up and got very noisy. The temperature was 60 degrees. I then opened the outside door until it went down so the bees were quiet. I left the door open all night on two nights so far this season. Of course, I shut the door at daybreak. I don't believe in keeping bees in a temperature in winter quarters that they stay *in hives in the light*.

I will be glad when I get the bees outside again. I am a little uneasy about them. I suppose the weather is much the same with you as it is here—very changeable. The prospects are poor for clover. It was muddy to-day, and freezing pretty sharp to-night. R. LOWEY.

Cherry Valley, Ont., Feb. 5.

Detecting Glucose in Honey

In the January number of the Ladies' Home Journal appears an article in which A. W. Woodman describes methods of detecting adulterants in various food stuffs. Referring to honey and other sweets, he says:

A common adulterant of honey, table syrups, molasses, jellies and jams is commercial glucose, made on a very large scale by treating corn-starch with acid. It may be detected quite easily by the peculiar precipitate it gives with alcohol. For this test it will be necessary to use strong alcohol—95 percent. Take a clear glass or tumbler about a third full of the honey or syrup to be tested. In the presence of glucose a milky turbidity will be caused, and at the bottom of the glass will be formed a thick, gummy mass, which can be easily collected in a spoon. If glucose is not present a slight flocculent precipitate will be formed instead of the gummy mass, and there will be no turbidity after the test has stood a few moments. It should be borne in mind that the glucose is not to be considered necessarily harmful, but that its presence always indicates a cheaper or low-grade product.

By a simple mistake I got two explanations of the above test from Prof. Frank T. Shutt, Chemist, Central Experimental Farm, Ottawa. The following letter will explain:

ALCOHOL AND BARIUM CHLORIDE TESTS FOR GLUCOSE IN HONEY.

DEAR MR. PETTIT:—Personally I can not speak of the validity of the test in the presence of small quantities of glucose. It is no doubt indicative when the proportion of glucose is at all considerable. Leach, in his recent work on "Food Analysis," writes as follows:

"The presence of commercial glucose is strongly indicated if, on the addition of 3 or 4 volumes of strong alcohol to the honey, a precipitate of dextrin is found. Pure honey should show only a slight milkiness and no actual precipitate when thus treated."

I may add that I do not think there is any simple test which a layman could use with certainty for the detection of glucose in honey, though a precipitate in the diluted honey on adding a solution of barium chloride would indicate traces of sulphuric acid, which very frequently accompanies glucose. The absence, however, of such a precipitate would not in itself necessarily imply freedom from glucose.

Yours truly, FRANK T. SHUTT, *Chemist*.

Report for Season of 1905

MR. MORLEY PETTIT:—From 3 colonies we got over 200 pounds of honey and 4 swarms. I have also a large amount of new combs for another year. I lost one colony from being queenless, and did not find it out till too late; it was my own fault. I tried to stop swarming by killing most of the queens (as a man had advised me), and I suppose the cells I left turned out "no good." Oh, I learned a lot last summer.

I am wintering 6 colonies. They were all out to-day, and I think they are doing well. The neighbor I spoke of as having foul brood in his apiary, lost all his bees. I have heard of no others with foul brood. I kept the Richardson 10-frame hive that I started with, made the hives myself and bought the frames. I wanted to go slow at first. The clover and fall wheat are all right at present.

Greenock, Ont., Feb. 20. JOSEPH CONDY.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

"Those Bee-Problems"

That man with those "unreliable glasses" says something about a little dog that "died or run away"—I don't just recollect which the dog did. He also heaves a big sigh as if he feared that "those bee-problems" would never be solved now; but, Mr. Hasty, had you not thought about it that there might be others who might do it?

Then, too, we'uns have been wondering whether the Ohio State University would be so much interested in us if we went there, as some evidently suppose we did, especially in the heart of snowy winter, when it was proposed to venture there. Since then a kind of hankering toward wanting to stay at home and among my own bees has kept me tied down to it, and here I am. Yes, I am a "sure enough" bee-keeper again, with several hundred colonies, to run them all by my *little* self (only 6—3 tall). Of these doings, some may prove good enough for publication some time sooner or later, depending upon when they happen to happen—even if they are only good for some "wit and humor" page.

And, again, in my dabblings with bees, sure enough bees, it is to be supposed that some of the stumbles might happen to be across something of—well—er—of value. It may also happen to happen that some of "those toothsome bee-problems" to which Mr. Hasty refers, and which he would like to *see* solved (I suppose) might happen. If they don't, I can already imagine that "Hasty" man jumping up with, "I told you so!"

Two Foul-Brood Inspectors

As assistant in the Department of Entomology and Apiarist at the State A. and M. College, the duty of foul brood inspection fell on the shoulders of the writer at various times since the foul brood law was placed in the hands of the State Entomologist. This gave me a lot of varied experiences, some of them as serious as others were comical.

It was during my inspection work in Southwest Texas, however, that I was aided by a young bee-keeping friend, who, by his services, through his kindness, his good-will and his generosity, enabled much work to be accomplished in a short time, than if the labors had fallen to one man. This same young man was none other than Willie Atchley, whom almost every reader knows, and whose picture will be seen here. Willie is the *leetle* fellow in the "rig," while "ye humble *bigger* fellow" towers up on the left of him.

"BIG BILL" AND "LITTLE BILL"—TWO BEE-INSPECTORS.

Indeed, this couple was not known by their right names, for 'twas "Big Bill" and "Little Bill" that they were called. Everybody in Beeville knew them by these names.

But in showing the picture of Mr. Atchley, the bee-keepers of Southwest Texas have before them a young man who has been very helpful and instrumental in the work of inspecting the apiaries there, and in locating the diseased apiaries that were destroyed and thus rid of the dreaded foul brood. He is the person who has only lately been appointed as inspector for that section.

Preventing the Introduction of Foul Brood

As foul brood inspector for Southwest Texas, Mr. Willie Atchley, of Beeville, was appointed by Prof. Albert F. Conradi, State Entomologist at the A. and M. College, under whose supervision the Texas foul brood law is. Mr. Atchley should make a good officer. He is a thorough bee-man, and well acquainted among the bee-men of his section of the State. We are hoping that there will not be very much for him to do in the inspection work, however; not that we wish to see him spend his life in idleness, for he is one of those fellows who would find—and, in his case, already has—enough to do; but I am sure that I voice the sentiments of the bee-keepers of the entire Southwest Texas in my wishes. Foul brood is not a much-desired thing, and the less there is to do for the inspector the better for the bee-keepers.

A word of explanation concerning the situation of foul brood in the above-alluded-to section is due the bee-keepers of that part of the State, especially since it seemed necessary to appoint an inspector. Those who are not familiar with the facts of the case, and the situation of the subject, may draw conclusions from the fact of this appointment that are not at all warranted.

Although there is no foul brood there now, there has been trouble at two different times, of bees being imported into that section that were diseased. As the matter has been properly taken care of, and the destruction of the diseased apiaries resorted to, it practically leaves, as above mentioned, very little to do for the inspector for the present. One of the main and most important objects of having an inspector at the most important bee-keeping centers, especially where new comers may bring bees with them, is to guard against any further introduction of foul brood or other diseases as in the previous cases. This can be accomplished much better by having a man at such a place who is thoroughly able to keep up with the information regarding the shipping in, and other movements of bees.

As soon as it is learned that bees are to be brought into this section, arrangements for having them inspected are made, and the bees will not be allowed to be brought until a certificate showing that they are in healthy condition can be obtained. Such is the duty of a district inspector, besides that of inspecting apiaries that may be reported to him for inspection for any reasons sufficient to warrant him to do so; and the bee-keepers should all go hand in hand in this matter and aid this work. In this way they will receive protection, and help protect others.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

When to Take Out Cellared Bees

When in the spring is the right time to take bees out of the cellar? I can't find it in any of the bee-books? MISSOURI.

ANSWER.—It isn't an easy thing to say when is the right time to take bees out of the cellar, and I'd give a pretty penny to any one who could tell me with certainty the best time to take mine out this spring. There has been as much as a month difference between the earliest and the latest of my taking out, there being that difference in seasons. There must be more or less guessing about it so long as one never knows in advance just what the weather is going to be. So long as they are in good condition in the cellar, and there is nothing for them to do outdoors, there's no hurry about taking them out. If you will watch the blooming of red maples, willows, or other trees upon which they work in your neighborhood, you will generally find it best to take them out at the time of such bloom, but not even then if the weather appears unfavorable. So far south as you are—in Missouri, 39 degrees—are you sure it is advisable to cellar bees at all?

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Transferring Bees—Best Bee-Book and Comb-Honey Hive

1. I have 3 colonies to transfer in the spring. When and how would you transfer them?

2. What is the best bee-book for a beginner?

3. What kind of hive do you think is the best for comb honey? MINNESOTA.

ANSWERS.—1. A very satisfactory way is to wait till the first swarm issues, hive it and set it on the old stand, set the old hive close beside it; a week later move the old hive to a new place, and 2 weeks later still—or 3 weeks from the time of swarming—transfer in the manner directed in your bee-book.

2. All of those advertised in the American Bee Journal are good. After you get familiar with one, if you mean to do much with bees it will pay you to get another.

3. The 8-frame hive is good if you pay a lot of attention to the bees, but unless you expect to give them very close attention take the 10-frame hive. Any plain hive with frames 17⅝x9⅛, outside measure, is good whether dovetailed or not.

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Throwing Out Bee Larvae or Pupae—Caucasian Bees, Etc.

1. I commenced last spring with 2 colonies, increased to 8, and got 150 sections of nice honey, which, I think, is good for a beginner. Three of my increase I caught. I had one destroyed by moths, and one lost its queen, which I doubled with another, so I have 6 left.

2. Last summer all of my bees threw out a good many bees in the larval stage. The only way I could explain it was the moth destroyed some of the brood, for, on examination, I found holes in the brood-combs as though something had been eating them. Am I right?

3. I see a good deal of late about the Caucasian bees, some claiming they won't sting and are good; others claim they are no good. What is the truth about these bees?

4. Bees usually go to work here in March after a few warm days, as we have lots of maple and willow trees, and some wild gooseberry. Do bees get honey from those trees, or is it all pollen?

5. Does it do any harm to open a hive in the winter, on a warm day, if you don't disturb any of the frames or bees, but simply look at the top of the frames?

6. Is it best to winter bees on the summer stands in this locality—about 55 miles south of Chicago? I have a nice place, sheltered on the east, north and west sides, and open on the south to the sun. ILLINOIS.

ANSWERS.—1. You certainly did well; but you must not feel discouraged if you do not repeat the experience. Other seasons may not be so good. A few colonies in a locality ought to average better than when you increase to a larger number.

2. When bees are starving, they suck out the juices of the larvæ and throw out the skins. I suspect, however, that in your case it was the pupæ instead of the larvæ that were thrown out, and that you are right in blaming the wax-worm for the trouble.

3. The truth is about as you state it, and we must wait for further information before we know which is right. It looks a little as if there was quite a variation in Caucasians.

4. Both pollen and honey.

5. Yes, it is a bad thing to disturb bees unnecessarily; and I wouldn't even uncover the frames at a time when bees can not fly, unless there was danger of starvation.

6. They ought to winter well in the cellar, and yet sheltered as you say they are they may also do well outside. It would not be a bad plan to try some each way, and then you could decide better than any one else.

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Taking Out Cellared Bees for a Flight—Mice in Hives

1. I am now wintering 35 colonies in what I call a very good cellar—concrete walls all around and concrete bottom, with good circulation. Is it the right thing to put colonies outdoors on a nice, warm, sunshiny day, and then put them back in the evening? I see some advocate keeping bees as quiet as possible—don't disturb them until spring opens. But, on the other hand, don't you think it is a very good plan to give them a flight on such a day? They will cleanse themselves and be nearly as good as when first put in.

2. I have been troubled somewhat with mice. They are bad when they get started. I have lost one colony by their work. They did not eat much honey, as it was one-half full, but they ate the bees, leaving heads and wings—not a live bee in the hive when I found it. The entrance was stopped up, and a nice nest of 5 young mice in it. Of course I fixed them, killing an old one, and 3 got away. What shall I do in such a case? I am afraid they will kill all the rest. MICHIGAN.

ANSWERS.—1. As you intimate, opinions are divided. I've tried both ways, and I can't decide which is best. The objection urged against taking out for a flight and returning is that it starts to breeding and makes the bees uneasy. On the whole, if they are doing well in the cellar, it may be as well to leave them until taken out for good; but if they are suffering from confinement, as shown by diarrhea, give them a flight, and then return them.

2. Don't be too sure the mice killed those bees. It is just possible the mice only ate them after they were dead. Neither is it likely the mice will kill all the rest. You can close entrances with coarse wire-cloth, three meshes to the inch. That will allow the passage of bees, but not mice. Even if you fasten a mouse into one of the hives, that's better than to let it have free run.

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Moving Bees—Preventing More Than One Swarm—Feeding Bees—Changing Queens—Color of Comb Honey—Getting Rid of Ants in Hives

1. As I want to move my bees this spring, would 2 feet apart be too close for each hive?

2. What is an effective way to keep my bees from giving more than one swarm per colony?

3. One of my colonies gave more honey last year than the rest of them. Should I save these drones and kill out those that are in the other colonies?

4. What time next month can I open the hives to see if the bees are well supplied with honey? and about how much should each colony have? If they have none, what should I feed them, and how much?

5. I would like to better my bees by giving them Italian queens. Could I do this at any time in the summer? If not, when?

6. How can I see, by looking into the hives, when a swarm is ready to come out, as I would like to use the Alley trap?

7. How can I tell by looking at comb honey whether it is light, amber or dark? What are the shades of the cappings?

8. How can I keep the little red ants out of the hives in the summer-time? I have tried sulphur with no good results. Do they do any harm in the hives? WISCONSIN.

ANSWERS.—1. That depends. If there are plenty of trees or other objects to help mark their locations it will be all right. If the ground is perfectly level, and nothing to help to locate the hives, there will be mistakes in entering hives. If you want to save room, instead of putting them regularly 2 feet apart, put the first two close together, leave a space of 3 feet, then two more hives, and so on, putting the hives in pairs, with 3 feet between each two pairs. With that arrangement you'll get more bees on the same ground, and at the same time there will be less mixing.

2. When the prime swarm issues, hive it and set it on the old

stand, setting the old hive close beside it. A week later move the old hive to a new location some distance away.

3. It will be an excellent plan.

4. Unless you are very much afraid some of them are now starving, don't open a hive until a day when the bees are flying. If you think a colony is starving, go at it right away—may as well kill some of the bees by disturbance as to have all starve. Better see that each colony has 10 pounds of honey, or more, to carry them through till they are gathering. If they haven't that much, feed to make up the deficiency. Give them combs of sealed honey. Probably you haven't any. Then feed candy. Perhaps still better, take C. P. Dadant's plan: Smear candied honey over the top-bars back of the cluster, pushing some of it close to the cluster and making sure that the bees get started on it.

5. You can do it at any time, but it will be as well not to be too early. Queens reared too early are not so good, and prices are higher early.

6. You can make a pretty safe guess by looking for queen-cells. A swarm is likely to issue as soon as the first cell is sealed.

7. You can't tell by the cappings. The lightest honey may have dark cappings if long enough in the care of the bees, and the darkest honey may have light cappings. Hold the comb up to the light of the window and look through it, and you can tell pretty well the color of the honey contained. Of course, you must make some allowance for the comb. If it is badly discolored it will make white honey look darker than it is.

8. They probably do little harm beyond annoying the bees, and the bees are competent to take care of them. They go to the hives and make their nests there chiefly for the warmth afforded. Some say borax sprinkled over the places they stay will drive them away. If you allow no lurking places over the hives where a bee can not go as well as an ant, the bees will keep them away.

You are a good questioner, and your questions show intelligence, only some of them show that you have no text-book of instruction about bees, or else that you have not studied it very carefully. This department is intended to supplement the text-book, not to replace it, and it is hardly fair to occupy room with matters fully given in the books. If you will get a text-book, and study it carefully, I'm sure you will thank me for advising you to do so, for it will be money in your pocket.

Sweet Clover Seed

I would like to get some sweet clover seed. Can you tell me where to find it? KENTUCKY.

ANSWER.—I don't know where you can get sweet clover seed, but about this time of year you ought to find it advertised in this and other bee-papers. It is reported unusually scarce this spring, and that seems a little strange, seeing the great quantity of seed each stalk produces. One reason, probably, is that while there is a great quantity of sweet clover throughout the country, it is so scattered that the seed would have to be gathered by hand. Still, there are a good many patches thick enough to be mowed.

Convention Proceedings

Report of the Wisconsin State Convention

BY HARRY LATHROP.

[Continued from page 218.]

The writer read the following paper on

A GOOD BEE-CELLAR

In this Northern climate there are two ways of wintering bees successfully. One is by having self-protecting hives (and they would be all right if it were not for the expense); but it is not my purpose to treat of them but of the other, and, I believe most reliable method of wintering, a good cellar.

It has been customary with a good many to use any sort of cellar, be it ever so damp, ill-smelling and unfit, as a wintering-place for the bees. I think this has been a great mistake, and that bee-keepers at large have lost heavily in bees, and consequently in money, by not going to the expense of providing the very best accommodations that could be produced.

A great deal of effort has been made to improve the bees and to get them into good working shape after the season commenced; but a quart of bees in a hive that contains a much larger bunch of dead ones, and mouldy, damp combs, is a poor start. And yet the colony wintered, did it? Only part of it. Better winter quarters would have brought them through in fine shape. There would have been a strong force of bees—dry, sleek, healthy, able before they died off, to leave a rousing colony of younger workers. I have lost enough from poor-wintering quarters to appreciate the gravity of this question. It is one of life and death, and means much to the man who is to make his living, or any part of it, from honey-production in Wisconsin.

What we want in a cellar is purity of air, measurable dryness, and an even temperature which will remain at 40 to 45 degrees above, never going below 40 nor above 50. The labor and expense required to secure such a cellar depends greatly upon the character of the soil and location in which it is to be built. Some locations are very much better adapted than others. In a bank of pure dry sand, such as may often be found along the river valleys of this State, it is an easy matter to make a good cellar. The room may simply be boarded up inside; the loose sand will make an excellent floor, and, with a couple of doors and a wooden tube for a ventilator, one has a cellar that is all right.

But if it is desirable to locate a cellar where the ground is a damp, heavy clay or muck, and where there is no rising ground to aid drainage, the task of providing a suitable wintering-place is not so easy. But if the ultimate object is kept constantly in view, that is, the requirements of a good cellar, I think all obstacles can be overcome, but it will take more work and better material.

I have a cellar which I built in a side hill the past season. The hill is composed of loose layers of limestone, and we got more than enough good building stone out of the pit to make all the walls. The floor of this cellar is the natural rock, and the drainage is perfect without any special arrangement. The cellar proper is entirely under the ground, but the ante-room by which entrance is had through double doors, is only partially under ground. The path into the cellar is on a level with the floor, so as to avoid going up and down steps with the hives. This is a desirable feature, but not a necessary one. For packing overhead I used dry leaves on the floor, and over all a good shingle roof. The upper part of the ante-room is packed with leaves also, as I wish it to be a good protection to the main cellar.

Were I to locate a cellar in level, damp ground, I think I would only sink it down about half way below the general level of the ground, then bank up around the walls to make a mound. It would require only a few steps to get down to the cellar bottom, and would be much easier to drain. I would lay tile under the bottom and along the sides of the walls and arrange to carry off all water from the eaves. Such a cellar, if properly constructed, would be dry and warm, even if located in a damp place.

Two feet of dry earth makes a good absorbent covering for a cellar, the earth to be protected by a good roof; but it has a tendency to rot out the ceiling, and in a certain number of years will break down and the upper part of the cellar will have to be rebuilt. I have therefore conceived the idea of using lighter material. Dry sawdust, leaves, or clover-hulls, would be all right, I think; but I have not had sufficient experience to be able to judge of the comparative merits of different materials. I think, though, that an absorbent packing is better than an ordinary room overhead having tight floors, which would not facilitate the moisture escaping.

My only ventilator is a small wooden chimney leading from near the cellar floor up through the roof; although, in the last cellar I built, I have an arrangement for letting warm air in at the top of the inner door and drawing out the cooler air at the bottom. This is intended to be used in case the cellar should get too cold during some very severe and continued cold weather, at which time I could place a small stove in the ante-room and change and warm the air in the cellar. I do not expect to do this in any ordinary winter, and perhaps not at all.

I am somewhat opposed to the practise of letting in air directly from the outside, and think that air enough will come in through the stone walls. If the bees are wintering perfectly, they are quiet and do not consume much air. Don't think, though, that they cannot be smothered. I once placed 50 colonies in a small, double-walled room without sufficient ventilation; the weather changed, the temperature of the room went up to 60 degrees, and before I knew it over half the bees were out of the hives, some dead on the floor, and bushels clustered in the upper corners of the room. (That was nearly 20 years ago.) I took the colonies out of that place and managed to get 25 through in a weak condition. I made $400 from the 25 nuclei that splendid honey-year. What would I have made from 50 properly wintered colonies? If those bees had been in a cellar, somewhat larger than the pile of hives containing the bees, a temperature of 60 degrees would have done no harm. So you see, they can be smothered under certain conditions.

As this paper will invite discussion, I think it is unnecessary for me to prolong it or try to say all that could be said regarding the construction of a good bee-cellar.

(Concluded next week) HARRY LATHROP.

Reports and Experiences

Few Dead Bees So Far.

I put most of my bees on their summer stands yesterday. There were very few dead bees, and the hives were almost as heavy as when they were put into the cellar in December. It was a fine day and they had a good flight. I would put out the balance of only 6 colonies, but the wind has shifted to the northwest so they could not fly out if put on the outdoor stands.

Lyons, Kas., Feb. 20. G. Bohrer.

Likes the Right Kind of T-Super.

On page 159 is an article written by F. Greiner, on supers, section-holders, etc. But all that I object to in particular in his well-written article is in regard to his not very well-founded opinion in regard to the T-super. I have used in the production of comb-honey several different kinds of supers, and, so far as my experience goes, I have never used any supers that gave better results than the T-super. It is simple in construction, easily filled, and also convenient to empty.

Before removing the honey from the super, take a curved-bladed knife, not too sharp, and scrape all the bee-glue and wax from both the top and bottom of the sections, which can be easily done while the sections are firmly held in .the super. Then remove the follower and take a screwdriver, or some suitable tool, place it between the sections and outside case, tapping gently with a light hammer both along the side and ends, so, if this is properly done, all you then have to do is to place a board about the same size of the super on the upper side. Then invert the whole, lift the super off, give each T-tin a light tap or two with the hammer and the work is done, except removing a little propolis that may be under the tins. This can better be acomplished by scraping while the sections are still in a group. I have never been annoyed with leaking sections after this manner of procedure.

Now, if you are provided with a super-filler, as described in Dr. Miller's book, "Forty Years Among the Bees," you would not exchange the T-super for any other make on the market.

If these few thoughts, hastily jotted down, will be of any interest to any one, I will be very glad.

Although the pursuit of apiculture for the last two seasons has been very discouraging, yet I have not altogether lost all hope that there is a better day dawning for bee-keepers in this locality. I have 95 colonies in the cellar, but I fear they will not come out in very good condition. Samuel H. Hitt.

Elizabeth, Ill., Feb. 22.

Value of Bees to Alfalfa.

I am a beginner in the bee-business, although years ago I had considerable experience with bees, but never with movable-frame hives. I bought one colony last May, increased to 3 by fall, and then I cut 3 bee-trees and saved the bees, which gave me 6, all in dove-tailed hives; 3 of them had to be fed, which I did in October.

About the middle of November, 1905, I bought 10 colonies of black bees at a sale. When I got them home I found that 2 of them did not have stores sufficient to feed them till Christmas. The weather being warm, I soon fed them, using a Miller feeder.

I packed my bees by making boxes about 4 inches longer and wider than the hives, having no top or bottom, and set this over the hive, and filled the space with old papers, about an inch thick on all sides. I then laid about the same number on top of the hive, and over all I put a cover made to turn water. The bees are wintering in fine condition; they were flying nearly every day last week.

We had rather a poor season for honey last year on account of the extreme drouth the latter part of the summer. Alfalfa practically produced no honey after July 1.

We had quite a striking example, in this county, of the value of bees to alfalfa. Our creek bottoms are especially adapted to alfalfa culture, and a larger acreage is sown on one of the the creek bottoms, where large quantities of alfalfa seed is raised. On one farm where no bees were kept the yield of seed, in 1905, was two bushels to the acre. On another farm, on the same bottom, one mile from the first, where only 3 colonies of bees were kept, the yield of alfalfa seed was between 4 and 5 bushels to the acre. On still another farm, where about 20 colonies of bees are kept, the yield was between 7 and 8 bushels per acre; and 2 miles below, without bees, the yield again dropped to 2 bushels. H. F. Hillebrandt.

Osborne, Kan., Feb. 14.

CONVENTION NOTICES.

Utah.—The Utah Bee-Keepers' Association will hold their spring convention in the Mayor's office, in the City and County Building, April 6, at 10 a.m. Among other questions of interest to be considered will be the best approved methods for producing and disposing of bee-products. All are cordially invited to come and bring their friends.

G. E. GARRETT, Sec. E. S. LOVESY, Pres.

Michigan.—The Northern Michigan Bee-Keepers' Association will hold its next annual meeting at Kalkaska, Mich., Wednesday and Thursday, April 4 and 5, 1906. Generous prizes are offered for certain exhibits. W. Z. Hutchinson, E. D. Townsend and Geo. H. Kirkpatrick, the President, will read papers. Special hotel rates are given by the Manning House. Send to the Secretary for a copy of the announcement, list of prizes offered, etc. Then attend the convention if you possibly can do so. IRA D. BARTLETT, Sec.

East Jordan, Mich.

North Texas.—The annual meeting of the North Texas Bee-Keepers' Association will be held at Blossom, Tex., Wednesday and Thursday, April 4 and 5, to which all bee-keepers are invited. There will be no hotel bills to pay. On the program are the following: "Best Races of Bees," W. H. Laws and Dr. R. P. Davies; "Foul Brood," Louis H. Scholl; "Which is the Best for North Texas, The Production of Section or Bulk Comb Honey?" R. C. Abernathy and Dr. R. P. Davies; "Extracted *vs.* Comb Honey for North Texas," R. C. Abernathy and Dr. R. P. Davies; "Is a Bee-Keepers' Association a Necessity?" W. H. White; "Is the Combining of Bee-Keeping with Poultry-Raising Profitable?" L. C. Lancaster; "Best Honey-Plants of North Texas," J. M. Hagood; "Best Hive for North Texas—8, 10 or 12 Frame," W. H. White; "How Best to Manage Our Bees for the Greatest Profit," E. A. Ribble. Question-Box. W. H. WHITE, *Sec.*

Connecticut.—The 15th annual meeting of the Connecticut Bee-Keepers' Association will be held in the Capitol, Hartford, Room 50, Wednesday, April 11, 1906, at 10:30 a.m. All bee-keepers should make an extra effort to attend this meeting. Try to bring a friend also. Topics for discussion: The best method for putting starters in sections. Your best way to prevent swarming. Swarming devices, pro and con. Large and small hives compared. What is the best way to increase? Best use to make of second swarms. How did your bees winter? How many colonies have you? What do you do with sections after removing them from the hive? Handling the divisible brood-chamber vs. single frames. How do you manage the colony after the first swarm has left? How do you ripen or thicken extracted honey? Can new combs be made out of old ones by cutting them to one-half inch thick or less? and would they be as good as new ones?

Please bring something for the exhibition table, or a question for the question-box.

MRS. E. E. SMITH, *Sec.*

Watertown, Conn.

The Rietsche Press.—Those who have bought Rietsche Presses from me have probably found out that by following the directions given it is easy to make heavy foundation, but rather difficult (though not impossible) to make foundation thin enough for sections. The directions given as to the kind of lubricant to be used were not very definite.

Many kinds of lubricants are recommended by the European writers; but all the best contain alcohol. The best two are a mixture of alcohol and whey (from the cheese factory) half and half, and a mixture of water, honey and alcohol, about equal parts. For obvious reasons, I did not care to advise the use of alcohol, so I have from time to time tried every thing else that I could think of, but without success.

What puzzles me most is the assertion that the making of foundation with the Rietsche press is so easy, and the foundation as fine and as thin as any made with rollers, even by the Weed process. At fairs, the Rietsche foundation has often carried the first prizes against all others.

I finally realized that to make thin foundation easily and rapidly, the use of alcohol as a lubricant is indispensable. But a trial soon showed me that wood-alcohol would do just as well as any other. I think water, alcohol and honey, about equal parts, will do; perhaps a little more alcohol and a little less water. The wood-alcohol is cheap, and can be bought from any dealer in paints and varnishes. As it evaporates rapidly, only a little should be mixed at a time.

In comparing the comb foundation made with the Rietsche press, with the Weed foundation, two things must be taken into consideration. One is, that the transparency of the Weed foundation makes it look much thinner than it is. The other is, a piece of foundation made on the Rietsche press may be, and in fact is, thicker than a piece made by the Weed process, and yet is fully as light. This is due to the fact that the thinness of the Weed foundation is due largely to the enormous pressure to which it is subjected.

I intended to try the Rietsche foundation in sections extensively last summer, but the failure in the honey-flow prevented me from doing it. A little was done, and, as far as it goes, it shows that the bees take the Rietsche foundation in preference—probably because it is much softer. The few sections that were completed seem to show that the bottom of the cells had been thinned down; at any rate, the comb was not any harder than the natural comb; while the Weed foundation, no matter how thin it is, is somewhat tougher. It must be admitted, however, that the difference is not considerable.—ADRIAN GETAZ, Knoxville, Tenn.—(Adv.)

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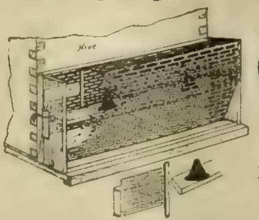

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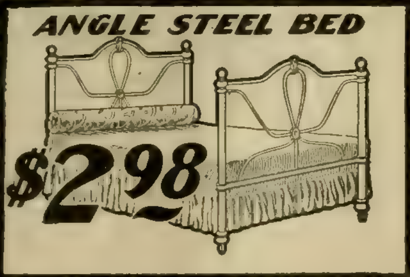

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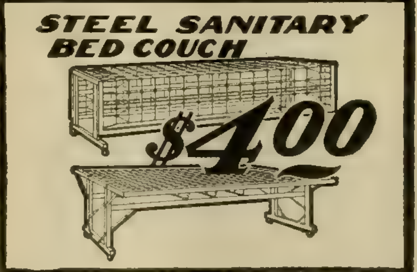

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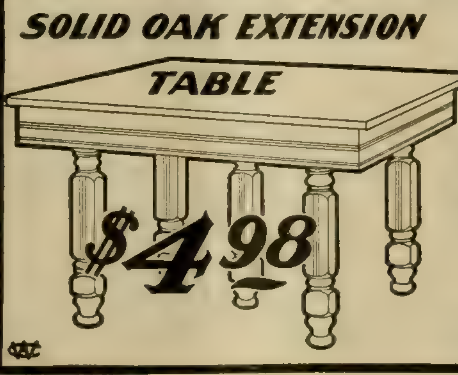

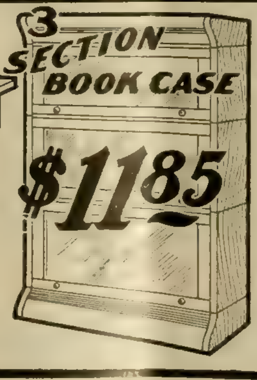

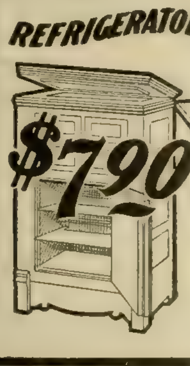

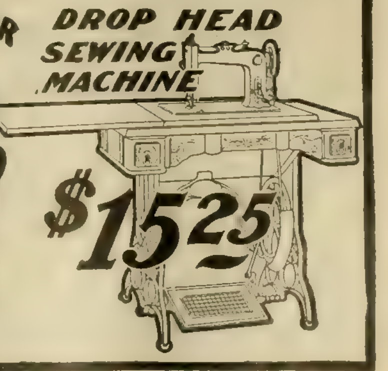

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Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
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Select the Queen wanted, and add the price to the above prices.

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He will furnish at the same prices as last year: Tested, $1; Untested, 75c; 5 for $3.25; 10 for $6; 15 for $8.25; 25 for $12.50; 100 for $45. He breeds Goldens, Carniolans, and 3-Band Italians. Also 1, 2, and 3 frame Nuclei and full colonies. Prices given on application. Pharr pays the freight, and guarantees satisfaction on all Queens. To do justice and judgment is more acceptable with the Lord than sacrifice.—(Prov. 3:21.) 5Atf

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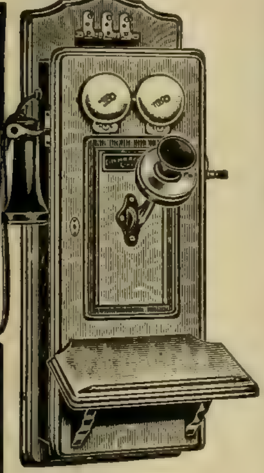

It tells "How to Buy the Right 'Phone." This book tells the reasons why the "EACO" 'phones have clearer, stronger talking qualities than others. It tells why "EACO" 'phones are better adapted to the use of farmer's than others. It tells how to organize a Farmer's Telephone Company and how to build a practical efficient working line that will be a source of pleasure and profit every day in the year.

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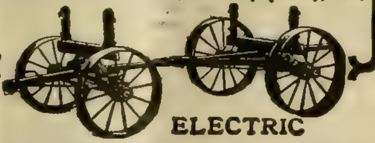

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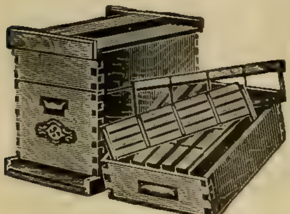

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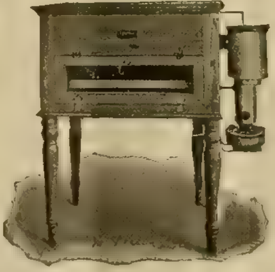

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Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**

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Office and Salesrooms, 2146-48 Central Ave. Warehouses: Freeman and Central Aves.

Honey and Beeswax

CHICAGO, March 7—Choice white comb honey is not plentiful, and it sells upon arrival at 15c per pound Other grades of comb are not in demand and sell at uncertain prices of 10@14c per pound. Choice white extracted, 6⅜@7⅜c; amber grades, 5½@6½c. Beeswax, 30c per pound.
R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c: amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
GRIGGS BROS.

INDIANAPOLIS, March 24—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, March 20—The call for honey is falling off, and while the supply is not abundant, yet it equals the demand. We quote fancy white, 16@17c; amber, 13@14c. Extracted, white clover, 7@8c; amber, 6@7c. Beeswax, 28c.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, March 19.—Demand for comb honey is fair, especially for the better grades, and fancy white is selling at from 14@15c; No. 1, 13c; light amber, 11@12c; no more demand for dark comb honey. Extracted is in good demand, mostly California, at unchanged prices. Beeswax is firm at from 29@31c, according to quality.
HILDRETH & SEGELKEN.

CINCINNATI, March 8.—The demand for comb honey has brightened considerably since we last reported; in all probability, by the close of April, the market will be bare of comb honey. This will be encouraging to the bee-keeper. Nevertheless, to advance the price is out of the question; therefore, we continue to quote fancy white comb honey at 14@15c. The demand for extracted honey does not come up to our expectations; we quote amber at from 5¼@6½c, according to the quality; fancy white, in 60-lb. cans, 8c. Choice bright, yellow beeswax, 30c.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, March 16—The supply of comb honey is not very large. Demand is light, best 24 section white selling at 3.25 per case, amber at 25@50c per case less. Extracted, white, 6½c per pound; amber, 6c. Beeswax, 25@30c. We look for an increased demand in the near future.
C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., APRIL 5, 1906 No. 14

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Singing birds in every tree;
Grass a-growing in the meadows
Just as green as green can be.

Violets in shady places,
Sweetest flowers were ever seen!
Hosts of starry dandelions,
"Drops of gold among the green."

Pale arbutus, fairy wind-flowers,
Innocents in smiling flocks;
Coolest ferns within the hollows,
Columbines among the rocks.

Dripping streams, delicious mosses,
Tassels on the maple trees;
Drowsy insects, humming, humming—
Golden butterflies and bees.

Daffodils in garden borders,
Fiery tulips dashed with dew;
Crocus flowers; and through the greenness,
Snowdrops looking out at you.
—*Selected.*

AN ARMFUL OF BEES.—(See page 292)

BEE-HIVE STRUCK BY LIGHTNING.
(See page 292)

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PUBLISHED WEEKLY BY

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334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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334 Dearborn Street, CHICAGO, ILL.

Contents of this Number

Illustrations—

An Armful of Bees.......... 1st Page
Bee-Hive Struck by Lightning.......... 1st Page
Frame-spacing Arrangement.......... 298

Editorial Notes and Comments—

Honey Advertising and the National Association.......... 291
How to Provide Water for Bees.......... 291
Need of Water for Bees.......... 291

Miscellaneous News Items—

An Armful of Bees.......... 292
Bee-Hive Struck by Lightning.......... 292
National Convention.......... 292

Contributed Special Articles—

Baby Nuclei.......... 297
Beeswax — Origin, Composition, Adulteration Tests, Etc.......... 295
Beginning Bee-Keeping—Good Advice.......... 266
Cleaning Oil-Cans.......... 297
Dadant Methods of Honey-Production (No. 8) 298
Family Apidæ.......... 294
Feeding Bees.......... 297
Hive Colors, Etc.......... 298
Hives and Frame-Spacers.......... 298
Home-Made Hives.......... 299
Honey that Tickles Palates.......... 293
Plea for a Better General Education.......... 294
Reading Bee-Literature.......... 287
Shipping and Selling Section Honey.......... 294

Convention Proceedings—

A Non-Swarming Hive.......... 302
Bee-Keeping—Ancient and Modern.......... 301
Dysentery Among Bees.......... 305
Economy in Bee-Keeping.......... 299
Feeding Back to Get Partly-Filled Sections Completed at Close of Honey Season.......... 303
Foul-Brood Inspection.......... 304
Harvesting of Extracted Honey.......... 304
Management of Out-Apiaries.......... 302
Michigan State Convention.......... 302
Performing Bee-Men at Fairs.......... 303
Pollen in Sections.......... 303
Queen-Excluders.......... 303
Races of Bees.......... 304
Size of Sections.......... 304
Uncapping Machine.......... 304
Wisconsin State Convention.......... 9

Southern Beedom—

Attend Bee-Keepers' Conventions.......... 305
Invitation to the National.......... 305
Nueces Valley Convention.......... 305

Our Sister Bee-Keepers—

New England Sister Looks On.......... 306
Some Intemperate Bees.......... 306
Very Old (?) English Bees.......... 306

Mr. Hasty's Afterthoughts—

Bees Moving Eggs or Larvæ.......... 307
Caucasian Bees.......... 307
Causes of Honey Flow and Suppression.......... 307
Cutting Foundation.......... 306
Dampening Sections.......... 306
Growing a Quick Wind-Break.......... 306
Sulphur for Bee-Paralysis.......... 307
Two Queens in a Hive.......... 307

Canadian Beedom—

How to "Sample" a Town With Honey.......... 307
Losing Its Honey Flavor.......... 307
Relation of Ripeness of Honey to Granulation 307
Streaky Granulation in Honey.......... 307

Dr. Miller's Question-Box—

An Injured Finger.......... 308
Buying Bees in the Spring.......... 309
Changing Queens.......... 309
Equalizing Brood Among Colonies.......... 309
Extracted-Honey Retail Packages and for Storage.......... 308
Italianizing Black Bees.......... 308
Keeping Queens.......... 309
Making Sections at Home.......... 309
Mice as Honey-Eaters.......... 308
Miller Frame.......... 309
Number of Comb-Honey Supers Per Colony... 309
Old Combs for Beeswax.......... 309
Preventing Bess Hanging Out.......... 309
Pure-Blood Italians.......... 398
Rearing Queens.......... 308
Ripening Basswood Honey.......... 308
Several Eggs in a Cell.......... 309
Shallow Hives.......... 308
Stretching Comb Foundation.......... 309
Uniting Weak Colonies.......... 308
Ventilation Space Below Brood-Frames When Moving Bees.......... 309
Wax-Worms and Combs.......... 308

Reports and Experiences—

Bees Wintered Well So Far.......... 310
Honey Scarce Last Season.......... 310
Keeping Bees on Shares.......... 310
Not Expecting a Great Crop.......... 310
Season Earlier Than Usual.......... 310
White Clover All Right.......... 310

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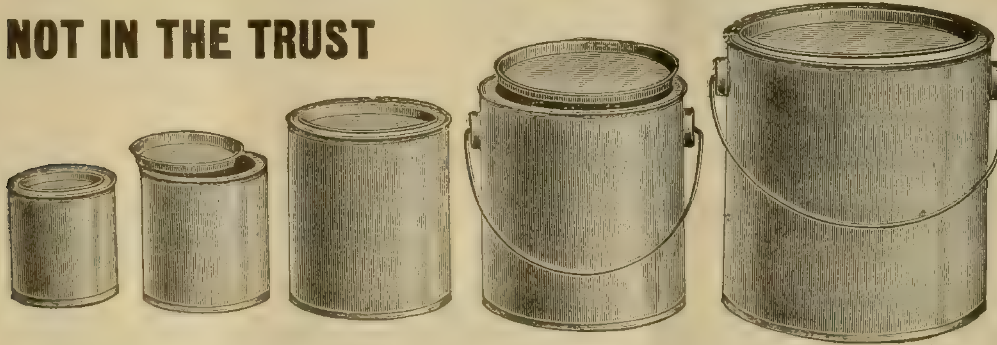

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Is what we are making for our customers.
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We carry a full line of SUPPLIES. Ask for Catalog.
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The Pacific Rural Press has been a household word throughout California for 35 years. It is authority on all matters regarding the soil or products of California. Weekly, illustrated: Edited by practical specialists. Two Dollars per year. Send for sample copy.

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65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

Mention Bee Journal when writing.

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You know what this means. **Four carloads of New Goods on hand.** Our business increased last year 100 percent over 1904. This is a proof that we are saving our customers money. Try us. **Low Freight Rates from Toledo. Large Discounts—that tells the story.** Our 80-page Catalog is sent free.

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521 Monroe Street, TOLEDO, OHIO.

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Send for our Catalog and get prices that will surprise and please you. All we ask is a trial order, and there will be no trouble in holding your custom.

Minnesota Bee-Supply Co.,
JOHN DOLL & SON, PROPRIETORS
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Finest and largest stock of Supplies in Illinois. Italian Bees and Queens in season. Catalog free. 15 eggs of Pure Barred Plymouth Rocks, $1.00. Incubators and Brooders always on hand.
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Plain. Perfect. Tested. Adapted to every climate. Obviates spring-dwindling and bee-moths. Guarantees 3 times greater increase of brood and honey; is 50 percent cheaper than Langstroth hive. Patented. Partnership or royalty agreement with manufacturers desired.
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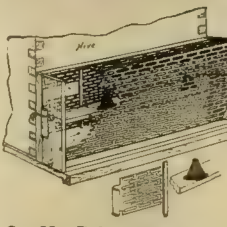

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No Absconding.
Order to-day.
Prices, by mail, 70c
5 or more
(freight) each, 40c

G. H. Dibbern & Son, Milan, Ill.
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WANTED MEN TO LEARN BEE-KEEPING
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WHEN YOU NEED QUEENS
And want your order filled by return mail with the best Queens that money can buy, we can serve you. Queens are healthy and prolific; bees the best of workers. Try our fine strain of 3-band Italians. Tested, $1.00 each. Untested, 75c; $8.00 per dozen.

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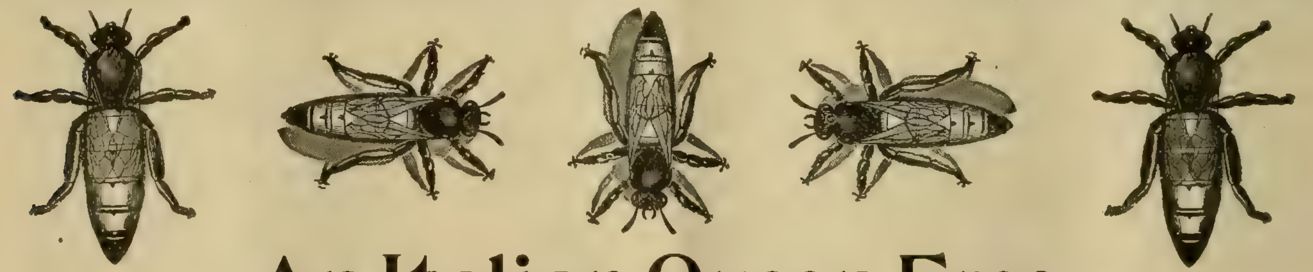

An Italian Queen Free
In May or June, 1906,
To Regular Paid-in-Advance Subscribers Only.

We wish to make a liberal offer to those of our regular readers whose subscriptions are paid in advance. It is this: We will send you FREE by mail, in May or June, 1906, an Untested Italian Queen for sending us $1.00 and the name and address of a NEW subscriber to the American Bee Journal for a year. Or, to yourself, a Queen and Bee Journal a year—both for $1.50.

We are booking Queen orders for next May and June delivery. Will you have one or more? These offers ought to bring in many orders. Our Queens are reared by the best queen-breeders, and give satisfaction.

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Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. Catalog Free.

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

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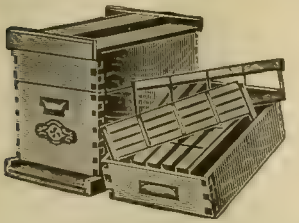

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Beeswax wanted—28c cash, 30c when taking bee-supplies in exchange.
Extracted Honey For Sale. Prices on application. Sample, 10 cents.

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New 1906 Catalog for either line Free.

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ITALIAN BEES in modern hives for sale, f.o.b. Chicago.

BEE-SUPPLIES

Everything the bee-keeper needs. Distributing house for **Lewis' Goods at Factory Prices.** Now is the time to buy for next season.

Discount for Early Orders

FINE EXTRACTED HONEY in cans or barrels. The best the world can produce Samples 8 cents, to pay postage and packing. How much can you use? Prices quoted quick on the quantity you mention.

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UNITED STATES OF AMERICA

The Head

of the family is the money-getter. If our Queens head your colonies they will give you more money. The largest queen-rearing apiary in the North. **The gentlest and best Italian and Caucasian.** Prices for a postal. **BEE-SUPPLIES.**

The Wood Bee-Hive Company
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QUEENS

Best 3-band Italian—1 Untested Queen, 75c; 6 for $4; 12 for $7.25. One 2-frame Nucleus with Queen, $2.25; 10 in one bunch, $17.50.

LUTHER PRESSWOOD,
6E7t RELIANCE, TENN.

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FOR SALE 100 colonies of **Pure Italian BEES** in 8 or 10 frame New Dov. Hives with Hoffman Frames; Tested Queen in each colony. Price, $6 each. In lots of 10—$5 each.

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☞ J.G. Goodner, of this State, writes me that he "prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

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☞ Passengers east from Buffalo to Fort Wayne, Findlay, Fostoria, Cleveland, Erie, Buffalo, New York City, Boston, and all points east, will consult their interests and find advantage in selecting the Nickel Plate Road east from Chicago. Three through trains are run daily, with through day coaches to New York City, and modern Pullman sleeping-cars to destination. Rates always the lowest, and no excess fares are charged on any train, for any part of the journey. Modern dining-car service, with individual club meals, ranging in price from 35 cents to one dollar; also meals a la carte. Ask for tickets via the Nickel Plate Road. Chicago depot, La Salle and Van Buren Sts., the only station in Chicago on the Elevated Loop. Chicago City Ticket Office, 111 Adams St. Detailed information may be secured by addressing John Y. Calahan, General Agent, 113 Adams St., room 298, Chicago.
1—12A6t

12.80 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day

GEO. H. STAHL, Quincy, Ill.

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

PERFECTION IN

SECTIONS

Inspector's Certificate

The contents of this crate were inspected by Sorter No. **175**

Packed by **155** Date **March 21, 1906**

If you find any occasion for criticism, in the way of defective material or inaccurate workmanship, return this slip, with a sample of the work complained of, to the manufacturer,

THE A. I. ROOT CO., Medina, Ohio.

A Guarantee of Workmanship

We have spent thousands of dollars in building and improving our Section **Machinery.** Our equipment is the best that brains can produce. We use only the best basswood **lumber** that can be obtained. Now to insure the third feature in the trinity of perfection—**inspection.**

The human quality is harder to regulate than either machinery or material. How can the correct grading of our sections be insured? We have a system that solves the question. In every crate of Root sections made in 1906 you will find an inspection card like the one illustrated above. The Sorter, when he finishes his work, stamps his number on this card—likewise the Packer. In case of careless grading or packing the matter can be traced to its source. The Sorter and Packer are anxious to keep their positions and ambitious for better wages. Naturally the best possible work is done by each.

Root's Sections for 1906 are better than ever. Last season we made 23,000,000. This season we will doubtless exceed that mark.

Prices of Sections

	No. 1.	No. 2.		No. 1.	No. 2.
Per 100	$ .75	$ .65	Per 2000	$ 9.75	$ 8.75
Per 250	1.50	1.25	Per 3000	14.25	12 75
Per 500	2.50	2.25	Per 4000	18.50	16 50
Per 1000	5.00	4.50	Per 5000	22 50	20.00

Plain, no-beeway sections, 4¼x4¼x1½, 1⅝, or 1⅜; 3⅝x5x1½, 4x5x1⅜ or 1½, in lots of 1000 or more will be 25 cents per 1000 less than prices named above.

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The A. I. Root Co., 44 Vesey St., New York City.
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AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor CHICAGO, ILL., APRIL 5, 1906 Vol. XLVI—No. 14

Editorial Notes and Comments

The Need of Water for Bees

The bee-keeper looks out that his bees are supplied with food, giving little thought generally to their need of water; but if the bees themselves were consulted they would be likely to say that in the spring they are more concerned about drink than food. If they are in the care of a provident owner, enough food is in the hive so that there is no need to go outside for it unless the weather is entirely favorable; but when brood-rearing is begun water is in constant demand, and no supply has been stored up from the previous fall, hence many is the day when they are forced out to skirmish for water when the weather is so inclement that thousands of the wee creatures never reach home with their icy burdens. How many bee-keepers, probably, are there who pay the slightest attention to the matter of providing their bees with water? Humanity alone should urge that which will pay in dollars and cents.

How to Provide Water for Bees

In some cases it will be an advantage to the bees if water is provided for them in any way whatever, only so it is near enough to prevent their going off a half mile or more for it. Still more important than to save such travel is to furnish them water in a sheltered place. For a bee will chill much more quickly sitting still in a chilly place loading up with water than while in active exercise on the wing. So let their watering-place be sheltered, protected from cold winds and open toward the sun.

A bee will be three times as long loading up with cold water as with warm. So there will be a gain to give tolerably hot water as early in the day as bees begin to fly; and the oftener it is renewed the better. If you are willing to take the trouble, you may arrange so that the water shall be kept throughout the day at a uniform degree of warmth. Take a box 2 or 3 inches higher than a lamp to be set in it. Over this set a tin pan large enough to cover the box. Put in the pan some cork chips to prevent the bees from drowning, and fill up with water. The cork chips can be got at any grocery which sells Southern grapes. Lacking cork chips, a floating board well filled with holes, or some other means, may be used to prevent drowning. A lamp is set in the center of the box, and kept turned up enough to keep the water at blood heat or warmer. For ventilation make a half-inch hole at the bottom of the box at one side, and a similar hole at the top on the opposite side. Make a door on one side through which to regulate the lamp.

Some sort of roof or covering should protect rain during showers. When rain is falling one would think the bees should take the drops falling at the entrance of the hive; but they don't, they fly through the rain to their usual watering-place.

Some trouble to do all this; but if you will find the places where bees, left to themselves, obtain their supply of water in spring from icy streams or puddles, and count the dead bees that have been lost thereby, you may think the plan suggested none too much trouble. Of course, those who live far enough South may thank their stars that they are saved all anxious thought on this score.

Honey Advertising and the National Association

We have received the following contribution from Hon. Eugene Secor, of Forest City, Iowa, who was at one time General Manager of the National Bee-Keepers' Association:

A BUREAU OF PUBLICITY.

EDITOR AMERICAN BEE JOURNAL:—You may remember the friendly correspondence we had after the Honey-Producers' League was organized.

You will recall that I was not very enthusiastic as to the beneficial results sought to be obtained through the means proposed.

Without looking up the old files of the American Bee Journal to see just what the purposes of the League were, it was, and is, my impression that it was proposed to advertise honey in the leading papers and magazines, asserting its purity, its healthfulness, etc.

If the impression then received was wrong it was chiefly due, perhaps, to the fact that the sum of $5000 was called for before beginning business. It occurred to me that if $5000 were needed to maintain a few small advertisements in a few of the leading literary and political journals for the first year, it would require other equally large sums every year to keep alive the interest awakened if any impressions on the public were produced.

So I say this plan did not appeal to me, because I thought the bee-keepers, or the manufacturers even, could not afford the expense.

If, however, I was mistaken in my ideas of the League's purposed work, and if it (the League) meant to maintain a "Bureau of Publicity," working through the *reading columns* of such newspapers as could be interested, then I am heartily in favor of the plan.

If the League could be merged into the National Association, and the latter take up this work of publicity in addition to its other duties, it would open a wide field of usefulness.

I suggest the formation of a Literary-Bureau by the National Directory. This Bureau, composed of two or three competent members, could prepare matter for the secular press pertaining to bees, honey, comb foundation, etc., which would not only be admitted to the reading columns of hundreds of papers, but would be welcomed and sought after.

I believe that publishers, as a rule, want correct information on all technical subjects, and their greatest trouble is to find some one who is competent to furnish it.

The "ready print" companies that furnish plates or "insides" for most of the country weeklies, sometimes pay specialists under contract by the year to prepare matter for them.

It seems to me that it would not be difficult to get access to the columns of these country weeklies through the Newspaper Unions. Other papers might be interested if the proper methods were pursued.

I think I could name at least two men who are wise enough, and capable enough, to bring about such publicity. The present Secretary of the National and the General Manager of the League know how to gain admission to the editorial rooms of the press.

I wish to state here that I am aware of some of the labors performed by you, Mr. York, along the lines above suggested. I know that you have been admitted to the columns of some of the Chicago dailies in the interest of apicultural truth. This is an assurance that more might be done by the same efficient means if it were thought wise to keep it up.

I believe some discussion was indulged in at the last meeting of the National relative to uniting the two societies, but I am not sure what action was authorized. It seems to me that duplication of work that could be accomplished by one association is not wise. I see no reason why the National could not take up this work of publicity under its present constitution, and if prosecuted as before suggested, the expense would not be greater than the present receipts warrant.

A small committee, untrammeled by red tape, could do a lot of advertising in the course of a year with small outlay.

Perhaps this subject isn't timely. It may be ill-advised, but knowing what other organizations are attempting in their own interests, and how they are going about it, leads me to suggest the method briefly alluded to above. EUGENE SECOR.

We are glad Mr. Secor has written the foregoing. It gives us the opportunity to say that in addition to advertising honey extensively in the newspaper and magazine press direct, it was The Honey-Producers' League's intention to do much along the lines mentioned by Mr. Secor. Naturally, when the advertising columns of a publication were being patronized, their managers would more readily accept contributions along the same line, but of a more general character, and which often would contain appropriate apiarian illustrations.

The proposition made by the League at the late National convention (subject later to the approval of the League's membership), was that the funds now in the League's treasury be turned over to the National, to be expended in the same manner as proposed by the League's constitution. Up to this time the League has not been notified of the action of the National's Board of Directors on the proposition, although it has been over three months since it was made.

Mr. Secor's suggestion is all right, being in line with what we proposed for the National some time ago. But perhaps now that it comes from Mr. Secor it will be considered. We hope so, at least.

We may say further, that if it is expected to "get something for nothing" along the advertising line, bee-keepers might as well stop before starting. What is $5000 or $20,000 a year among say 100,000 bee-keepers? Why, many single concerns think nothing of spending such sums every year, and they are not the largest firms, either. Bee-keepers must get over the idea of doing a penny advertising business if they wish to develop a more general demand for honey. It can't be done with a few free reading notices in papers of small circulation, and with several hundred dollars.

But if the National had the League's funds in addition to its own, an effort could be made that might result in creating enough interest to induce more bee-keepers to contribute to the advertising fund.

Miscellaneous News ✢ Items

Well, How Do You Like It?—We mean this 32-page number of the American Bee Journal. Why not show it to your bee-keeping neighbors and request them to subscribe for a year? We offer many fine premiums in this issue for the work of getting and sending in new subscriptions. Judging from the way in which new readers are being added to our list every week, it must be a real pleasure to a non-subscriber to be asked to take the American Bee Journal. Try it and see.

We feel very grateful to those who are helping to increase our list of regular readers. If *you* have not secured any new subscribers lately, who not go out and ask a few bee-keepers to let you send in their dollars? If you have been sending in new subscriptions lately, "do it some more." We have room for a lot more of them!

* * *

The National Convention.—In these strenuous times there is not always the consideration there might be for those who do not act with lightning speed; as instance the following:

MR. EDITOR:—Why don't you announce the time and place of the next meeting of the National Association? What's a bee-journal for if it can not keep us posted? Or is the Board of Directors so slow it hasn't decided yet? Sometimes it makes a decided difference with making one's arrangements whether he knows the date six weeks or six months in advance.

Why wouldn't it be a good thing to have it an understood thing that the meeting is always to be at the time and place of the G. A. R. Encampment, and then there would never be any uncertainty about it? You can't get the attendance without cheap transportation, and the G. A. R. meeting makes sure of that. The Grand Army contains some good bee-keepers, and they will attend both meetings when they would not attend the National alone.

If the matter is not already decided, it ought not to take long to decide it. Unless San Antonio can get better rates than St. Paul, the thing ought to be considered settled. NATIONAL MEMBER.

This Journal pleads not guilty to the charge of failure to keep its readers fully informed as to matters of general interest. But it has no powers of prophetic vision, and would not dare to say in advance what may be the decision of the powers that be. Neither does the responsibility lie with the Board of Directors, but with the Executive Committee of the National.

Last week we announced that it had been decided to hold the convention in Texas this year. In all probability it will be San Antonio, though of this we have no authority to speak definitely as yet.

We certainly are in favor of making it a rule for the National Bee-Keepers' Association to follow the Grand Army. It would save any feeling on the part of some when the National doesn't meet where they desire, and, as mentioned by our correspondent, the low railroad rate is always assured. We hope that the Executive Committee of the National will, after this year, make it a rule to hold the bee-keepers' convention wherever the G. A. R. meets. We also make this as a suggestion, in conjunction with some other humble members of the National.

* * *

An Armful of Bees, appearing on the first page, was sent us by Carl Opsata, of Bemidji, Minn., who writes thus interestingly about his experience:

I send a picture of myself and my first swarm of bees taken July 17, 1904, by my father. It happened this way:

The swarm came out and wanted to settle on the little birch-tree shown in the picture; I did not want them to settle there, so I rolled up my shirt sleeve to the shoulder, took the queen in a cage in my hand, and shook them off the tree and let them settle on the queen-cage and my bare arm. It was a big swarm, the weight of it being too much for one arm, so I had to brace it up with the other. I got just 7 stings, and that in spite of the fact that they were hybrids. The feeling that all the thousands of little claws created was something wonderful.

After the picture was taken I wanted to get the bees off, and then the trouble commenced. When I began to shake them off the shirt-sleeve rolled down on them, and they crawled up my arm under the shirt, and on my body. Oh, I tell you it was fun! With the aid of a little smoke I got them out and off into a new hive, where they soon fixed up a home, and are there still. CARL OPSATA.

* * *

Bee-Hive Struck by Lightning.—When sending the picture shown on the first page, F. A. Meise, of Coatsburg, Ill., wrote thus:

I send you a photograph taken Sept. 1, 1905, of a bee-hive struck by lightning during a storm at midnight. There is an apple-tree stump on the opposite side close by. The lightning must have made a shot for the stump, but missed and hit the bee-hive. Some of the wires in the frames were burnt, combs slightly melted, and dead and benumbed bees scattered all around the hive. Some of the bees stood around benumbed, or as if they were sick, for several days afterward. I changed the combs and bees that were all right into another hive, and they went to work again, but I do not know if they will winter all right, as they were reduced in numbers.

The photograph was taken by myself. F. A. MEISE.

* * *

Marian Hershiser, a little daughter of Orel L. Hershiser, of Buffalo, N. Y., was accidentally burned some time ago. Mr. H. wrote us about it March 26, as follows:

DEAR MR. YORK:—Our little daughter, Marian (3½ years old), had the misfortune to set her clothes on fire 8 weeks ago. She was badly burned, and is still under the doctor's care. She is just getting so she can walk again. Her right arm, face, neck and ear were burned, but there will be no disfigurement of the features.

Yours truly, OREL L. HERSHISER.

We will all rejoice with Mr. and Mrs. Hershiser that "Marian" will recover so completely from her unfortunate accident.

* * *

More Good Photographs we can use in the American Bee Journal. If you have any of apiaries, or of things apiarian, we would be pleased to receive them. If they can not be used we will return them, and if we *can* use them we will so report, and also request some discriptive matter to accompany them. Who has one or more suitable photographs for our use?

The Premiums we offer are all well worth working for. Look at them in this copy of the American Bee Journal.

Contributed Special Articles

The Honey That Tickles Palates

Are We Supplying What the People Want, or Are We Trying to Educate Them to What We Want in Honey Supplied?

BY R. C. AIKIN.

THERE will be found in most parts of the country two classes of people—those who buy for show, and those who buy for service. If for show, the special requirement is that which pleases the eye; but if for service it is *quality* that is wanted.

There is a great amount of effort put forth these days to make our honey look nice—both comb and extracted. I believe in nice goods, but I also believe there is an overdoing in trying to make and keep our extracted honey *looking* nice. We sometimes sacrifice quality for looks, and thereby cut off our noses to spite our faces. Perhaps I can make clear what I mean by relating some experiences. Experience is a good teacher.

Last year was a failure with us—no crop. I had accumulations of dark and otherwise off-grade honeys that we thought we could not sell when we had a nice, clear grade of virgin goods. But with the failure I found myself without honey to supply my trade, and as people came inquiring I would tell them we were out, except some off-grade stock that was not up to our usual grade. I would get inquiries by mail from old customers in other States, and now and then would get an order with cash accompanying it.

Now, when a fellow has the cash in his fist, and needs it so very much as one naturally will after a failure, he hates to be obliged to return the money. I wanted the money, and the other fellow wanted honey. Those customers who came with a pocket-full of cash, and looked so disappointed in not being able to exchange it for sweets, I would take to the honey-house and show them some cans of the dark goods that we had been ashamed to offer before.

Don't get it into your heads that this was trash—it was pure honey; much of it had been through the solar extractor or otherwise darkened—often a can of what we call "overheated." Nearly every bit of this was very thick, some of it almost to a taffy. Often when candied (and nearly all was so) it would look like brown sugar when dug out. I would get a stick and fish out some of the brown goods and let the people sample it, and at the same time quote a lower price than standard white goods were selling at. Standard white, of course, is high this year.

Well, if there was a dark look on the face when the color only appeared, that cloud vanished when the sample reached the palate. I want to tell you that a blind man will be pleased with a thing that tastes good, if it is as black as your old wool hat.

I found these customers soon began to look off into space and smack their lips, and reach for another bite; some wanted the third and fourth bite, and some just wanted to "load up." That honey sold. I have sold lots of it that was not a bit better than I have often made into vinegar or fed to the bees. If I had some that was not off any in flavor, but just a little dark, it went as first grade. That which was both dark and a little off in flavor was sold as amber honey is usually sold. Other that was quite dark and also off flavor, but very rich and thick nevertheless, was sold at a price that would easily replace it with sugar for feed purposes if needed later.

I have for several years been melting cappings in the solar extractor, also candied sections and broken combs—yes, even clean burr and brace combs. The honey from all these when run through the solar would be more or less darkened, but was also downright *thick* and waxy in body. Such honey will please most customers who want the goods for service, and will cause customers to come again. They like it.

Comb-honey is recognized almost everywhere as a luxury, and when it sells as such must look nice; but, then, it sells at a price that makes its use more nearly that of a staple, and is so used the appearance does not count so much as does the quality that reaches and tickles the palate. The sale of chunk-honey proves this, and we can most of us test this in our own localities.

I have known these things for years, and have been teaching and practising them, but the past year's experience has shown me more forcibly than ever that it is *quality* and *not looks* that sells almost any kind of article of diet. In some cases I was afraid to ship my dark honey, which we call "solar honey," and ordered some *good* virgin new extracted, only to have the complaint come back, "We do not like that substitute honey as well as yours." In some cases I wrote to old customers, saying I had some of the dark honey, but thick and rich; a few said, "Send a can or two and we will try it." After trying it another order would come, saying, "That honey was fine," or "was good enough for us," or some like expression, "Send us more if you have it."

This winter I had the pleasure of a trip with some of the experts in various lines in institute work among the farmers in this State. One man who is a farmer and stockman told us something about potatoes. There were many markets demanding potatoes of first quality, and willing to pay well for them. They did not want a little bit of a thing that would be half gone when the peeling was off. For the same reason they did not want one what was so rough, either from scab or such defects, or from natural roughness, that it, too, wasted a very large percent in the preparation for the table. Neither did they want a big, overgrown one that lacked quality. The speaker said, "When you pack your potatoes put in the very smoothest and even ones, leaving out every single poor one, and they will sell for more money than the whole lot would have done with the poor ones left in, and you have the poor ones to feed, to boot."

It is the potato that serves well in preparation and edible quality that is in demand. This man had proved his statements by so doing, and had contracts with certain heavy buyers for 5 years in advance, at just about double the price received for ordinary stock, poorly graded. He claimed that if the quality was brought up to a high standard, and only perfect goods put out, the price would be four or five times as high, and willingly paid by those who did not care what they paid if they got quality.

What has been said of potatoes was also true of apples. Never put an inferior apple in a box. Better throw away all damaged ones than to allow one to get in. I heard the fruit-men in several places discussing this very thing. Right here at home, where raspberry growing and shipping is a large industry, it often happens that there is a lot of soft fruit that will not carry to its destination in good shape. The fruit-men say, "Better dump all the poor fruit into the ditch than to allow any of it on the market—it would spoil the market for the better."

Unripe honey is not good, though it may be water-white. A red potato may taste better than a white one, and a green-colored apple be better than a bright red one. If looks and quality can go together it is well—he who has such a combination is fortunate; but he who has the looks but not quality won't sell the second time to the same customer. Better, every time, put out ripe, thick, rich honey than to strain one of these points to gain in looks. We have been and are putting too much stress on looks; we are making it a hobby to our own injury. No, I am not arguing that poor stuff that looks bad may be sold, and satisfy; but get quality, that will serve well, and then fix it neatly, and it will please, and put money into the purse.

We have also been making altogether too much of looks in packages. How often have I seen people hold up a clear-glass bottle or jar of honey and comment on its clearness—could just look right through and scarcely know that there was anything within except air. It is just about like the little potato—when the peeling is off it leaves just about a taste; the customer does not want many of them. Such goods have altogether too much "peeling" on them. That same honey, made thicker, even though it becomes so dark that it can be seen by moonlight, when it reaches the palate will cause scales to come over the eater's eyes, and he says I must have some more of it if it takes the hide off my fingers to earn the dollars for it.

Yes, it will do to have some honey fixed up to attract the attention when it is simply a matter of show; but when you fix it for eating, look out for quality first, last and all the time. Yes, *quality*, and not too costly a "peeling." We eat the kernel and not the hull or shuck.

And about honey that has been darkened by heat, even if the flavor has been somewhat damaged—that is changed. Slightly overheated honey is thoroughly ripened and thick; after it has stood quite a while, often for several months, it will taste better than just after the application of heat. I have many times thought a can of honey so overheated would not do to offer for sale, and it was set aside, but after months when sampled was found to be most excellent in flavor and body. Thin honey deteriorates, but thick, well-ripened honey gets better with months of age.

Most readers will recall that I am the man who has said so much about eliminating the cost that comes between the harvesting of the crop and the time the consumer gets his fist on it. There is very much honey that, after it is off the hive and extracted, is doubled, and even trebled, in price, before the consumer gets it; this ought not to be, and must not be, if we are to be satisfied as producers. Let your extracted honey remain on the hive until thoroughly ripened, then when extracted put it up neatly, but cheaply, and in most convenient shape to reach the consumer without too expensive a "peeling," and it will be in demand. Divide the cost of that thick "peeling" between yourself and the man who eats your honey, and you will be a benefactor. This world is so full of vain show and display at the sacrifice of quality that it makes one sick at heart, and afraid to trust even his nearest neighbor and friend until dissected and proved.

Loveland, Colo.

Shipping and Selling Section Honey

BY G. C. GREINER.

After so much has been said and written on the sale of our products, it seems almost like a useless repetition to discuss that subject again. At the same time, late observations convince me that the subject is by no means exhausted yet, but is still open to continued considerations and investigations. If the few remarks I intend to make in this article should happen to "strike home" occasionally, I wish to have it plainly understood that it is not my intention to reflect upon anybody's mismanagement, or criticise other bee-keepers' affairs, but rather point out some mistakes, which, if corrected, will not only benefit the individual, but be a benefit to all of us, by improving the honey-market in general.

A short time ago I made a flying visit to one of Buffalo's main markets. I had no honey to sell—simply walked up and down the street for the purpose of making observations. After spending some time in taking in the various displays in the line of household necessities, I came across several lots of section-honey in 24-pound cases stacked up on the sidewalk, the sight of which, to express it mildly, made me heartsick. No wonder we hear complaints of slow and unsatisfactory sales. The outside appearance of those cases was anything but inviting; they were most awfully dirty and dusty, and reminded me very forcibly of some cast-away shipping-boxes that had been stored for months in some out-of-the-way coal-shed. This point alone is a great drawback in trying to make sales. At the present day we are all accustomed to find everything in the line of eatables neat and tasty in appearance. Our up-to-date groceries are full of fancy goods, and I would blame no proprietor for objecting to have packages like the above take a place among his carefully selected stock.

When I deliver section-honey to the retailer, every case is done up in paper; it is clean before it is done up, and after carrying it in a dust-proof wagon, it is, when placed on the counter of the grocery, as clean as a new-laid egg. The same is the case when I deliver direct to the consumer. Every package—be it one, two, or more sections—is neatly wrapped up in white paper, with card-board protections on the face sides and nicely labeled. All this may seem like a waste of time and expense, and I admit it looks so at first, but does it not pay in the end, if I can thereby establish and maintain a ready market for all I can produce at the highest market price, while the slip-shod producer would have to be satisfied with slow sales, at lower prices, and perhaps no sales at all?

After satisfying myself in taking an outside view, I stepped a little closer to examine the contents and found a most poorly sorted lot. As near as I could tell by looking through the glass, no pains had been taken to keep the different grades separate or to sort by general appearance. Some of the sections were all finished, with bordering cells all capped, while others had all open cells on the outside, and still others were not even all built out. The packer had overlooked the fact that, next to cleanliness, uniform appearance is the most essential feature in casing honey. It pleases the eye and attracts the attention of the would-be purchaser.

To cap the climax, the honey was exposed to the outside temperature, which was at the time of my visit 28 deg., Fahr., during noon hours, and undoubtedly had been considerably lower in the morning, or when the honey was first set out. Consequently it was badly cracked. Those cakes, that were well fastened to the frame, had cracks through the middle, or from corner to corner, and those with fastenings not strong enough to resist the contraction, were cracked loose on three sides. Now what would be the consequences if a retailer should be tempted by the low price the dealer would have to ask to find a buyer at all, to purchase this inferior and damaged lot? By the time the honey had been carted to the retailer's establishment over the rough city pavement many of the combs, already frail and brittle from the cold, would have been broken from their last support, bruising one another without anything to prevent it. Then, after the honey had been placed in the warm store and had time to regain its natural fluidity, what a nice, leaky muss it all would make! The whole affair would be a detriment to the honey-market; the retailer would not handle such mussy stuff a second time, and the consumer would not buy it again.

It is a fact, that after comb-honey has left the hands of the experienced producer, not one man out of 50 knows how to handle it properly, and it is therefore to the producer's own interest to manage in such a way that the chance of breakage is reduced as much as possible, and that his shipments arrive at destination in prime condition. Too eager to make the most of our crops, we frequently put up honey that is not fit for shipping, and it is not the novice alone who fails to exercise sufficient care in this direction, but we older ones are quite liable to make the same mistake. Only such combs as are well attached to the wood, that we know will stand the rough handling of shipping, should be selected for distant markets. Anything frail or the least doubtful might better be kept at home and sold for whatever it may bring.

To prevent damage by freezing, comb honey should be shipped early. It is a great mistake to wait for higher prices (which we generally don't get), and hang on to our crops until cold weather sets in. The proper time for shipping is, as a rule, September and October. This gives the commission house or the wholesale dealer, as the case may be, a chance to dispose of their stock during November, so that by the time settled winter weather sets in, about the first of December, it may all be in the hands of the retailer, where it generally is out of the way of frost. The finest honey that would be a pleasure and comfort to handle will make an unsightly, dauby mess, if exposed to freezing weather. I always make it a point to move all my comb honey, that I may have left late in the season, to warmer quarters, where frost is positively excluded.

Next to the production of the crop, early and quick sales, the natural results of timely and attractively-put-up goods, should be the main aim of the honey-producer, if he expects to make his occupation profitable.

La Salle, N. Y.

Plea for a Better General Education—Family "Apidae."

BY PROF. A. J. COOK.

It is now recognized by business men, no less than by professional men, that in any department of industry one can not know too much. Carnegie once decried education for the mechanic and business men as really a handicap. But in these latter years our educational methods, and the real results of higher education, have greatly changed, so that to-day our captains of industry value education as highly as do even the college men themselves. Few men are giving so generously, or helping so energetically, as is Mr. Carnegie, to foster higher education. He notices that business is greatly indebted to the educated men for its push forward, and he now sees clearly that even in the shop and office it is the thoroughly educated man that first reaches the goal, or, in other words, who captures the large prizes.

One reason that agriculture has not kept pace with other businesses is because, as a class, farmers are not educated. Yet the farmer has need of as thorough an education as any class of workers, whether brain or brawn counts in results. If I may be personal, I have one son. I early urged upon him the advantages of farm life to one educated for it. He, as a boy—a mere lad, in truth—elected to be a farmer. His college course was selected accordingly. He has now been on the farm 12 years and neither he nor I have ever regretted his choice. I know of few men more enamored of their work. Culture not only brings a larger measure of success, but it makes all practical activities more pleasurable. I have often felt that were I a ditcher I should wish an education. I could dig better ditches, at less expenditure of time and muscle; could get more of satisfaction in the digging, and would have, other things being equal, a far better chance to dig out a higher realm for my life and energy.

In the late '60's I was first inducted into the fascinating field of apiculture. I visited such noted apiarists of that day as Messrs. J. H. Townley and John Davis, who were leaders among Michigan bee-men. I was no less surprised than gratified to find that these men had made collections of our wild bees. This, of course, gave to them better observation, more thoughtful study into the things of nature, and, indeed, made them broader men. I have no doubt but such study made them more successful as bee-keepers.

In this article I wish to call attention to our wild bees. We are perforce interested in them as they are related to our pets of the hive; in their study, we are made more, or better, acquainted with our hive-bees; and, best of all, we shall find much in their life economy and habits that is intensely interesting.

In the first place, let us see how we may know the bee-family—Apidæ—from all others of this great order. All bees feed their young on pollen, raw or digested, and thus must gather this natural flour. This is always gathered on the hind legs, and held by hairs. Thus all bees have broad posterior legs covered densely with hairs. Two parts of these legs are very much broadened—the 4th and 5th joints or parts—the tibia and basal tarsus.

Again, bees can be divided into two great groups on length of the tongue. In one group the tongue is short; in the other, as noted in our honey-bees, and more exaggerated in the Bombus or bumble-bees, the tongue is *very long*. Some authors make a separate family of the short-tongue bees—the Andrenidæ.

Once more, bees are "Solitary"—that is, each female is isolated and works by herself; or "Social," where many bees pool their labors, so to speak. The honey-bee is the most wonderful of these social species, though the bumble-bees and the carpenter-bees—Xylocopa—which form their nests by boring in wood—are really quite wonderful in their life habits.

While most bees are gray or black, and of sober colors, yet some, like the Italian honey-bees, are beautifully banded. Others, like many species of the Bombus, are resplendent in gold, or often in gold and shining black; while others are brilliant red, green and blue. Thus a fine collection of bees in almost any region will present a most attractive exhibition.

Again, all bees, in common with wasps and ants, and a few others of the order, have larvæ that are utterly helpless, and so, of course, they must have a nest or cradle for them. Some of the solitary bees tunnel in the earth for a nest. Some make mud cells—mason-bees— others cut circular and oblong pieces from leaves of flowers or plants, and glue these into cartridge-like cells where the pollen is stored and the eggs laid. Many use hollow plants for a nest, and, to my sorrow, I have found that some use key-holes as a place for their mud-nests.

As already stated, the carpenter-bees bore in wood for nests. They often mutilate the doors, window-sills and cornices of our houses. These bees are large, and resemble bumble-bees, but are usually less hairy and more black. One common species in California has black females and light-yellow males. I have found that these can be driven off by use of kerosene and lard.

The bumble-bees nest in old mice-nests under clods. The queens alone survive the winters. In the spring the queen selects the nest, gathers pollen, and deposits the eggs. As the footless, helpless larvæ eat out cavities, these are waxed, and thus we see the big thimble-like cells for honey and young bees. The queens are large, and thus in the early spring we see only the large queens. Later the small workers abound, when the queen remains in the nest and gives herself solely to egg-laying. Later in the summer, queens and drones—male bees—appear. As with the honey-bees, the males come from unimpregnated eggs. I suppose the queens result from a more hearty diet of richer food. The queens and drones fly forth to mate, as do our common bees. I once saw two bumble-bees mate. While yet in copulo they came to the earth, and the act was fatal to the male.

The value of all bees in pollinating plants is inconceivably great. Of course, the social bees, because of their exceeding numbers, are most in evidence in this important role. The bumble-bees, because of their very long tongues, are the chief pollinators of red clover. As is well known, they had to be taken to Australia and New Zealand before the seed of red clover could be produced.

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Beeswax—Its Origin, Composition, Adulteration Tests, Etc.

BY ADRIAN GETAZ.

We can see by the article on page 211, how one difficulty in detecting adulteration arises from the very composition of beeswax itself. For instance, a test with an insufficient quantity of alcohol, or at a too-low temperature, would leave a portion of the myricine undissolved, and convey the impression that the wax was not pure. Another and more serious difficulty is that the chemical agents employed to test the wax acts on many other substances also. For example, the soda and potash form soaps with nearly all the oils and fatty substances as well as with the wax.

Home Adulterations.

We can distinguish two classes of adulterations—those made by the farmers and bee-keepers themselves, and those made by skillful dealers and manufacturers. The first ones are usually very crude and easy to recognize. The substances usually employed are tallow, rosin, paraffin, and any kind of entirely foreign substances like flour, sand, etc. Melting the wax will separate at once such things as flour or sand.

Pure beeswax has a slight but agreeable taste—a slight aromatic odor. It becomes plastic in the warm hand, without oiling or coating the skin, and is, under pressure, decidedly adhesive, with the separated parts welding together perfectly. When broken, the surfaces are granular, with a dry, unpolished aspect. When cut, they show a glossy, waxy lustre. When chewed, the wax does not stick to the teeth, but crumbles in the mouth. A small percentage of adulteration will often cause it to clog. Rosin makes the fracture smooth and shining. As cold alcohol dissolves the rosin better than the wax, it is possible to have the rosin all dissolved before the wax is much altered. The dissolved rosin can be separated by evaporating the alcohol.

Tallow gives the wax a soft, dull appearance. Its taste and smell can be recognized when chewing the wax.

The paraffin is harder to detect. Like the tallow and other hard fats, it causes the wax to melt at a lower temperature. It can be detected by the aid of strong sulphuric acid. A piece of the suspected wax is put in the acid. The acid destroys the wax completely, forming a black, carbonized paste, while the paraffin rises on the top untouched. The acid should be as concentrated as possible, as the addition of water prevents its action on the wax. There should be plenty of it, as the resulting black paste should be liquid enough to permit the paraffin to separate. Only about four-fifths of the paraffin is separated by that process even at the best.

General Tests.

The first general test that can be applied is that of density. Procure a piece of wax known to be pure, make it in a small ball, and put it in a glass of water. Add gradually some alcohol until the wax barely floats, and when pushed down remains about where it is without going up or down, or very slowly. Try a piece of the suspected wax; it should behave the same way. If it does not, it is adulterated and no further test is necessary. If it does, it might be adulterated if the substances added are of the same density as the wax. Be sure that no bubble of air is left in the ball, or adheres to the outside.

The second test is the melting point. Pure wax melts at 144 degrees, Fahrenheit, when fresh, and about 2 degrees higher when old. If no apparatus is at hand the test may be made approximately by putting a small piece of pure beeswax and one of suspected wax on a piece of tin, and holding the tin over a lamp. The two pieces should melt at the same time. It is necessary that they should be of the same size and shape, and that the tin should be kept moving over the lamp so that its whole surface is at the same temperature.

The third and fourth tests are by dissolving the wax in benzine, and also another sample in pure spirits of turpentine. In both cases the wax should dissolve completely, and the solutions should be perfectly clear. Needless to say that these tests, like the preceding, are not always final, because other substances than wax dissolve in benzine and turpentine.

Mr. Gaille's Test.

Mr. Gaille, a chemist of Switzerland, gives the following as the best known general process: In the first place the wax should be tested as to its density and solution in pure spirits of turpentine. If neither of these tests detects any adulteration the following is to be done:

A small piece of the suspected wax is placed in a glass of concentrated alcohol, and heated until the wax is dissolved. If anything fails to dissolve it is evidently an adulteration. If the dissolution is complete the glass is laid aside to cool for at least half an hour. The liquid, which is more or less cloudy, is filtered and added to about the same amount of filtered or rain water. A small piece of litmus paper (the druggist will tell you what it is) blued with a little ammonia is then placed in the mixture and the whole shaken together. After a quarter of an hour the paper should have remained blue. If it has become red, the wax is adulterated. If it has not changed, the liquid is then filtered and must be clear after the filtration. It is claimed that a wax that has stood all these tests is pure, as any of the known adulterants would have shown at one time or another during these operations.

MANUFACTURED WAX.

I use the title "manufactured wax" purposely. There are "waxes" or mixtures called wax of almost every color, degree of hardness, or melting point, that may be desired; some of them without any particle of real beeswax whatever. But do not suppose that these are frauds altogether. In a great many cases they answer the purposes far better than real, pure beeswax would do. Needless to say that when any such is used for making comb foundation, it is an unmitigated fraud of the worst kind.

Such "waxes" are obtained by mixing together in varying proportions all or parts of the following substances: Beeswax, paraffin, ceresine or mineral wax, stearin, and different kinds of animal and vegetable waxes.

One of the text-books I have mentions several kinds of mineral wax. The best known, and by far the most used, is the ozokerite. When purified it is called ceresine, or natural paraffin. It looks more like paraffin than like beeswax and can be separated from beeswax by the use of concentrated sulphuric acid, as described above for the paraffin. It dissolves entirely in spirits of turpentine, but little in boiling alcohol.

Among the animal waxes there is the Andaguies wax, produced by the different kinds of stingless bees of South America, and gathered by the Indians with more or less dirt of all sorts. It is different from that of our bees.

The Chinese wax is much whiter and finer than the beeswax. It is the product of another kind of insects which lives on a tree or bush called there the "wax-tree." It is an evergreen with white flowers similar to those of the cherry or plum trees. These insects, by biting or otherwise attacking the leaves of the trees, cause the formation of balls similar to those that we often see on the leaves of oaks and other trees, only they are larger and of a purple color. They contain the insect's eggs in large numbers. They are gathered in the fall and kept in a secure place through the winter. In the spring they are hung on the trees. Soon the eggs hatch out and the insects attach themselves to the leaves. The liquid they produce rapidly transforms itself into a white wax which covers the leaves and twigs until they look as if they were covered with snow. The wax is scraped off with a thin, sharp, flat piece of bamboo.

There are also bees and real beeswax in China.

The vegetable waxes are not due to any insect but are a product of the plants themselves. The white powder-like substances seen on plums or figs is something of that sort. It is found on the leaves of some plants or trees, on the berries of some others, and even in the bark of the cork trees. Each kind is somewhat different from the others, but all are too brittle to be used alone.

STEARIN.

The stearin has another origin altogether. It is white, almost transparent, much harder than beeswax, does not burn quite as fast, and for some purposes is far superior. It is prepared by heating tallow and dissolving it in boiling ether several times until the stearin is pure.

A French bee-keeper, Mr. Butet, says that by putting a little of the suspected wax previously melted in a boiling solution of soda, the pure wax will form a beautiful white soap, while the ceresin, if there is any, will remain untouched.

BLEACHED WAX.

The wax to be bleached is melted with some water and a little cream-of-tartar. The whole is kept on the fire and constantly stirred a while. Then the melted wax is poured in a trough having several rows of holes in the bottom. Under the trough is a cylinder revolving with the lower part plunging in iced water. The streams of melted wax are carried around by the cylinder and solidify in the water in the form of threads or ribbons. These ribbons are placed on large cloths stretched on wooden frames, and exposed during several days to the action of the sun and the dews. They are then put in sacks and piled in a room for two or three weeks. A kind of fermentation occurs and the ribbons weld together. They are then melted again and the same operation carried through one or more times, if necessary. At the last melting, 5 per cent of tallow is added, otherwise the bleached wax would be too brittle. It is now quite white, somewhat translucent, and much harder than the unbleached wax. A slight chemical change has also taken place.

Knoxville, Tenn.

Some Good Advice for Beginners

BY G. M. DOOLITTLE.

A CORRESPONDENT writes that he began taking the American Bee Journal last summer, through the influence of a friend who wished to interest him in bees; and that the reading of the same has caused him to think of buying some bees this spring. Therefore, he wishes that I would tell him something as to how he should begin, in this, to him, a new business. He says he is not very well off in this world's goods, so does not want to lay out more than is necessary to make a good start.

My advice to this man, and all others who contemplate going into the apicultural field, would be, Do not pay out any large sum in making a start; $40 to $50 should be all that is needed for what I should call a good start. Three or 4 colonies is all any beginner should buy, unless he has had considerable knowledge in handling bees in working with some well-informed apiarist. Twenty dollars should buy three or four good colonies in good Langstroth hives. Then, if the correspondent is at all good with carpenters' tools, I would advise him to make 4 more hives as nearly like those the bees are in as he is able to. Not but what he can buy hives, probably as cheap as he can get the lumber and make them, if he counts his time as anything; but this making of his first hives will be a good schooling to him, and "rivet" his interest to the bees so he will be more likely to make a success of the undertaking than he would if he bought everything ready made.

The lumber and comb foundation necessary for these hives should not cost more than $10 or $12, so that he will now have an outlay not to exceed $32 for his bees, and hives sufficient for making 4 new colonies, which is increase enough. To the ambitious beginner, this will seem like a small increase; but I wish to say that the doubling of our number each year increases our bees as fast as our knowledge of the art will increase. Then listen: 8 the first year, 16 the second year, 32 the third, 64 the fourth, 128 the fifth, 256 the sixth, and 512 at the end of the seventh; and the latter number is all one man can profitably work to advantage, unless he hires help, or has members in his own family to help him.

Do not get crazy over reports of some keeping thousands of colonies, nor over the puffs of wares by those having said wares for sale, and pay out your hard-earned dollars (earned in some other business) more than just to get a start. Hundreds of thousands of dollars have been squandered in this way on bees, and the only "show" that could be made for it a few years later was a lot of hives piled in fence-corners, containing a lot of moth-eaten combs.

Make your bees and yourself self-sustaining, after you start, not paying out on the bees more than the bees bring you in, remembering that if you cannot make 4 colonies pay, you cannot 400. Then if you happen to make a failure of the business, you will have the consolation of knowing that you have sunken but $40 or $50, instead of from $400 to $500, or perhaps as many thousand, as some have.

Besides your hives and bees, you will want a smoker, a bee-veil and a screwdriver or chisel, to use in opening hives. This part of the outfit should be gotten for about $2.50, delivered at your post-office.

Then, you want, *most of all*, one or two good bee-books to teach you the fundamental and first principles of the bee-keeping art. Right here is where more beginners fail than anywhere else. The $30 or $40 required for bees and hives comes easy enough; but $2.00 for two bee-books looks as big as all the rest; yes, and often bigger, so they are not purchased, and, not being purchased, they are not read; and the result generally is about the same as we used to read in our old school-books, "For the want of a horse-shoe nail the shoe was lost; for the want of a shoe, the horse was lost; for the want of a horse the rider was lost; and all for the want of a little horse-shoe nail." So, many and many a beginner has been lost, and also lost much of his worldly possessions, because he would insist in entering the bee-keeping ranks without a good book on bees, not costing more than $1.25 to $1.50.

After you have the book, or books, and have read them until they are as familiar to you as a "nursery rhyme," then you are ready to subscribe for one, two, or three of the bee-papers; and as you gain in knowledge, I would advise taking them all. But, hark! Don't make the mistake in substituting the papers for the books. You *must* read the books in order to comprehend and digest what is found in the papers, otherwise it is like feeding the three-months'-old babe on meat and potatoes instead of milk. Don't forget that you are a *babe* in the bee-business when you first commence, and that you want the "sincere milk of the word" for a while.

In the above you will have all that is really necessary for the first year, or at least all I had when the start was made. Thirty-five dollars was the outlay I made, and I have never paid out one cent since on the bees but what they have earned for me. And from that $35 beginning, the bees have built the buildings for my home; purchased the farm here and in the State of Arkansas; given me as good a living as heart could wish; helped me to support the church, Sunday-school and missions; and make others happy, who through misfortune and physical disability have a "hard row to hoe" through life; besides something laid away for a "rainy day" or old age.

And, lastly, I must tell you, if you wish to succeed, that you must be enough interested in the bees to look after them often, to see that "no stone is left unturned" that will make them profitable to themselves, for when they are thus profitable, they will nearly or quite always be profitable to you. You must be so interested in them that what you do with them will be as play. You cannot succeed in any business where all you do is done grudgingly, or where you are watching the sun all the forenoon to see if it is not "most dinner-time," and, at 2 o'clock, are thinking when it will be supper-time. No, *no!*

After having been in the business ever since the spring of 1868, there is nothing so fascinating to me as work with the bees. Even in the mid-winter it is a pleasure almost beyond measure to go into the bee-cellar and satisfy my longing eyes on the almost motionless cluster of bees as they hang below the frames in their quiet repose, waiting for the "breath of spring" to start them into life and activity again.

And, remember that the getting of honey, and from that money, is not all there is of bee-keeping. The life and health you can get out of the work done in an apiary is of far move value than all the millions of dollars accumulated by those who have sacrificed their life and health in their getting.

Borodino, N. Y.

Baby Nuclei—Feeding Bees—Reading Bee-Literature—Cleaning Oil-Cans—Hives and Spacers

BY C. W. DAYTON.

Replying to Mr. Doolittle, on page 46, I wish to say that although that second paragraph sounds rather harsh, it was written in a spirit of admiration rather than censure. I remembered Mr. Doolittle's article on "Drifting From Our Moorings," and in studying Dr. Miller's book I was surprised to see that he has been so conservative as not to be drawn after the later methods we read so much about, especially those relating to queen-rearing. It is my belief that the whole business has progressed entirely too rapidly for its own good. I tried from 50 to 75 baby nuclei the past season and I have given it up, and gone all the way back to the plan that was in use in 1880. I shall continue to operate a few in coming seasons in order to be sure my decision is a wise one, and also to test any new ideas which may come up. I have been obliged to do the same in respect to hives and selling honey or else my business would have "run aground" long ago. I have seen bee-men sink thousands of dollars during the past ten years simply by following the prevailing methods of doing business. Or, to put it in a nut-shell, let some one else do their contriving at two ends of their business.

There are several apiaries about here where the bees were fed in the open air as mine were. Thy sustained heavy losses. But I have doubts if the owners have a faint dream of what caused their losses. I knew there had been warnings that in feeding in the open air there should be an evening up of the stores, but I fail to call to mind when there was a warning that colonies will become so indifferent or dormant as not to take enough to prevent starvation when they have access to the feed every day.

It is said of man that one hour of sleep before midnight is worth several after midnight. Man will put his nerves in a tension and go without this early sleep. But bees do not imitate man. They obey Nature. I have consulted with neighboring bee-men who did not know, or else gave reasons, which, if they had given fair attention, they would have known could not be so. There are some 20 bee-men at Chatsworth, and I am the only one I can find who takes a bee-paper. I look to the bee-papers for verification of my observations. These bee-men must be oblivious as to what is agog in the bee-world.

If it gets so there is not enough profit in the bees they turn their attention toward grain, stock or wood, and when bees are profitable it is because of the abundance of flowers and honey rather than management. If there is not skill in production there is sure to be lack of skill in selling the product. And the time has arrived when the sale of the product is greatly hampered. Lack of love for the bees and study of their ways and implements for their management are the causes of the business not attaining to the height it should. I do several other kinds of work, but these help the bees to succeed. Not only to get supplies for the bees, but to reduce expenses which otherwise would be obliged to be paid out of the profits from the bees.

Most people who conduct two lines of business cause each one to stand upon its its own foundation. The true object should be to broaden the foundation upon which our cherished business (the bees) stands. The other way it narrows the foundation by taking away our profits and interest of mind in the bees. Mind is one of the important ingredients in the foundation. We should choose such lines as will contribute to the success of the bees. Change prevents the mind getting into ruts and staying there. Getting into ruts is narrowness in the extreme.

I am a subscriber to 6 bee-papers, 3 fruit journals, 3 farm papers, 3 iron and wood-working journals, 2 health journals, several religious papers and 2 popular magazines. After studying some of the other papers for awhile, and then coming back to bees, I find the mind rested and clear, and this study often brings ideas into the bee-line which are commonly used in these outside operations, but were never thought of as being applied to bees.

Every evening I engage in an interesting chat in some of these papers. But when it comes to work, I depend almost entirely on books. Not papers. Papers I give away. In the books I expect to find the cream. Everything sorted out and boiled down in better shape than I could spare time to provide the ability to do. Of course, different compilers have different views or systems, but I soon see which is best suited to my needs, and I know exactly in which book to look for the plan. I liken the bee-papers to crucibles in the assayer's workshop, but books should be the store-chests for the fine gold—or the summing up of the whole matter.

For illustration: In rearing queens I often use Alley's method, but at some times of the year it is almost impossible to get long rows of larvæ of the right age, so I change to the Doolittle method. In this it is difficult to see the very small larvæ. I take the comb containing the larvæ inside a building close by a window, but in the shade. When I get the wax and am ready to lift the larva I move the comb out into the sunlight for about a second and the smallest larva can be as easily seen as if it were under a microscope. Keeping the eyes in the shadows causes the pupils of the eyes to enlarge so that the rays of light pass through a larger opening, and more rays of light strike on the retina of the eye-ball and consequently a picture of the larva is perceived by a greater number of optic nerves. This magnifies the object.

To Clean Kerosene Oil Cans.

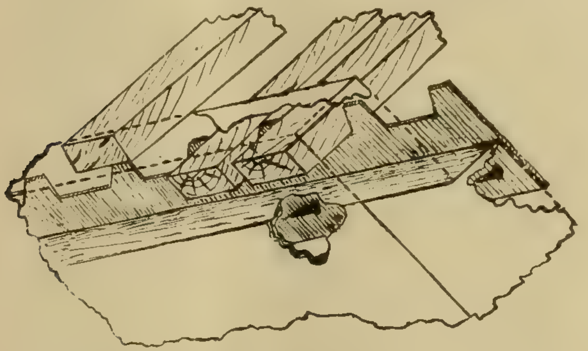
I first fill them with water and let them stand a day or two. This removes the loose oil. Some of them will be clean with water only. If you happen to put hot soapsuds into a can containing a quantity of loose oil the next can it is put into may be almost clean already, and the oily suds will make it worse than it was. The soapsuds should clean all but three or four out of a dozen. Those which still smell of kerosene I put over a fire which is as hot as possible without melting the solder. Kerosene is a volatile oil, and dry heat can remove what soapy water cannot reach.

After the oil has been driven out, the gummy residue which has collected in the seams of the cans will be dried down and smell musty. In such cans drop a half ounce of beeswax. Keep the can hot to melt the wax. Tilt the can to make the melted wax follow the seams down the corners and around the bottom, and up the opposite seam to the top seams of the can, and it is easy to coat the inside seams and remove the last particle of smell.

Now in order to see just where the wax is going we should stand within an open door. Rays of white light (from the clear sky) must pass in at the cap and strike the inside of the can and be reflected back out the cap or we cannot see anything within the can. Rays of skylight passing in from many directions as it would out-of-doors or before two or more windows will criss-cross one another and obstruct the fainter rays coming from within the can. The one who understands this can clean cans twice as well, and twice as rapidly, and earn four times as much as the one who thinks it all depends upon elbow-grease and soap. Even in simple matters we have need of photography and chemistry. Even those who would ignore these if shown where to hold a can would soon wobble out of the right position, and not be able to find it again.

HIVES AND FRAME-SPACERS.

Again, let us take a 10-frame hive with frames spaced 1½ inches apart, and allowing ½ inch for the extra space, we have the width of the hive as 15½ inches. This is for loose frames. If the frames are spaced by spacers they will work equally well spaced 1⅜ inches apart. Allowing ⅜ inch for the extra outside space we get 14⅛ inches for 10 frames—a difference in the width of the two hives of 1⅜ inches. The Langstroth hive is 18 inches long and 10 inches deep; 1⅜ off one side equals 246 cubic inches. This 246 cubic inches means bees. This amount of bees would fill 14 pound sections entirely full or 28 sections half full—more than a super. It shows that the advantage of close spacing is one super quite fairly filled with bees. Do you think it would pay to put 10 cents' worth of spacers in a hive? The spacer shown here is simply a strip of 28-gauge galvanized-iron cut out one-inch wide and as long as the rabbet of the hive. The notches can be chopped out rapidly with a die costing about $10, or a pattern can be laid on and marks made and then snipped out with the tinner's shears. Then the leaves can be bent over and pounded down flat in a vise. But the spacer should be so arranged that the bees can travel under the ends of the top-bars in the rabbet behind the spacer.



The spacer shown on page 53 is a good one where bees are not moved. But in moving, the spacer would jump out of the notches and travel, and the combs would soon get together and crush bees. Then there would be a smell of stings and crushed bees, and other colonies will get scared and become overheated, etc. It is easy to tell by scent how the bees are standing the ride, by walking behind the load. That spacer is simple, but it will be found considerable labor or else requiring expensive machines to make it.

The spacer on page 47, Fig. 2, allows the frames to rest flat on the rabbet where they would be glued fast. Consequently plain staples driven into the rabbet would be of equal service. I use plain staples in the upper stories where accurate spacing is less consequence than in the brood-chamber. Another thing, where we use close, accurate spacing, the frames are more difficult to be gotten out of the hive, and should not rest upon a rabbet that will permit them to be glued down.

Chatsworth, Calif.

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8—Dadant Methods of Honey-Production

BY C. P. DADANT.

FOR the successful prevention of swarming, it is not sufficient to have large hives. Other things are necessary. One of them has been already mentioned by me, in article No. 3, that is, the removal of drone-comb and replacing it with worker-comb, in colonies that we do not wish to use as reproducers. The production of a large number of drones tends to the increase of natural swarming. Some of the experienced bee-keepers who read this will think that this rule works also from the other end, that is, that a tendency to natural swarming causes the production of a large number of drones. That is true.

When the queen has been breeding largely and the sexual organs are fatigued by too constant laying, she seeks rest by laying eggs in drone-cells, for the eggs that she lays in drone-cells are not impregnated from the spermatheca, and there is a very probable change of sensations to her that gives her rest. This is the only explanation that has been advanced of the reason why she seeks for drone-cells at times. So an old queen will lay drone-eggs more readily than a young and vigorous one. But we find that when a hive is overcrowded with drones, when already well supplied with worker-bees, there is a feeling of unrest. The workers are compelled to hang out at night, and sometimes in the daytime for those burly and noisy fellows stay closely at home, except for a couple hours of the day, and they are very much in the way of the workers. It does not take much of an effort to picture to ourselves the discomfort which they must create, and the consequent propensity to sallying forth to establish another colony.

In a good harvest, the bees feel too good-natured to destroy the drones—evidently the requirements of nature are followed according to circumstances—and it is only when a disappointment in the crop follows that the bees begin to exterminate them, angered by their laziness and gluttony. So the result of a surplus of drones is a tendency to swarming. It is, therefore, a very good policy to remove all we can of the drone-combs. Some of our teachers in apiculture hold that we must leave a little drone-comb, or the bees will tear down worker-comb in order to be able to rear drones. I confess I have often tried to test this, but have never found an instance where it had taken place.

A friend bee-keeper once said to me triumphantly that the bees did change the worker-combs to drone-comb; that he had a sheet changed to drone-comb in one of his hives. I asserted that it must be a mistake. "No," said he, "that hive had every frame filled with foundation."

We opened the hive in question and in the meantime he told me how he fastened foundation and said that he always put in three wires whenever he used foundation. On examination, the sheet in question had no wires, and he was forced to acknowledge that there must have been a mistake.

Sometimes, if full sheets of foundation are overlooked with bees when first given to the colony, some of the cells will be changed to drone-cells by stretching; this is easily detected. At other times, worker-comb may break down from heat and drone-comb will be built in its place. But whether the bees do change worker-comb into drone-comb, in case we leave them no drone-comb at all, there is very little danger of this, for I have never yet been able to remove positively every cell of drone-comb from a hive. There will be cells of "accommodation," little patches in the corners, and occasionally a few stretched cells. But a few hundred drones are not to be considered. It is the big sheets of drone-comb, especially when they are in the center of the brood-nest, as they are sometimes placed during manipulation by a beginner who does not take notice of little things. It is the big sheets, I repeat, that make trouble.

Have you ever figured how many drones may be hatched in a piece of drone-comb a foot square? Let us calculate this together. A square inch of drone-comb contains 18 drone-cells on each side, or 36 cells. In a square foot there are 144 square inches—144 times 36 makes 5,184 drone-cells. Not only will those over 5,000 drones be in the way and induce swarming, if the season is at all good, but you must bear in mind that they have cost the bees about as much to rear as a patch of the same size of worker-brood, which would contain about 7,800 worker-bees. I do not mean to say that there would be 7,800 workers reared in the same space, for the queen *might not* fill that space with worker-eggs, and *could not* fill it in the same time, but there would be a chance for more workers and less drones, and it would be better to have the queen idle, or losing eggs, rather than laying such a quantity of drone-eggs.

Those drones cost you a great deal to rear, and, after they are reared, they are in the way, and are expensive, for they always eat at home. L'abbe Collin, who was very accurate in these matters, states that in their out-door flights the drones lose about 8 percent of their weight, which is very probably only a portion of the loss, and evidences how much food they must consume. We have, over and over, ascertained that the colonies that had few drones were less likely to swarm than those which, other things being equal, had many drones.

Another matter is ventilation and comfort. If the hives are exposed to the heat of the noon sun, its direct rays shining on the alighting board and the entrance, we know the bees will swarm more readily. If the space allowed for entering the hive is too small, there will be discomfort from that cause. Some may remark that, in a state of nature, the entrance to the hive is the same—exactly the same—summer and winter. That is true, but we have the bees in domesticity. We want to get a larger yield from them than they would produce if left to themselves, and we must look after small details if we wish to succeed.

My aim is never to allow a colony to cluster on the outside, while the crop lasts. I want to see every bee at work. When the crop is over, it is a different thing. They must be hanging somewhere then, and whether on the outside or the inside matters but little; but when the crop is on, we not only must keep them at work, but we must make things comfortable for them, so that every bee will be at work, either inside the hive or outside in the fields.

A bee-keeper who long ago dropped out of the list of contributors—James Heddon—said, "Our business is a business of details." This is emphatically true, and the apiarist who does not bother himself about details will sooner or later fail.

Hamilton, Ill.

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Home-Made Hives—Hive-Colors, Etc.

BY ALLEN LATHAM.

THE chief pleasure to me from writing on bee-keeping is derived from reading the occasional comments which the articles call forth. To know what another thinks of one's ideas, whether there be commendation or censure, must always afford interest. The columns of the American Bee Journal are too valuable to be used in reciting the numerous foibles and conceits which, though interesting *us* hugely, have little to offer for the entertainment of the other fellow. When, however, points are raised which relate to the true welfare of the bee and of the bee-keeper, then an exchange of opinion can become of great value. Accordingly, I am going to depart from my usual custom of keeping silent. On pages 183 and 199 Mr. Hasty and Dr. Miller raise points which I feel constrained to consider further.

Mr. Hasty suggests strawberries to me. Why? Oh, because the best strawberries are those which have enough acidity to make the sweetness all the sweeter. If Mr. Hasty occasionally drops a little acid, he quickly seeks to mollify the effects by an oozing of honeyed sweetness that can scarcely fail to appease all hurt.

I suppose, Mr. Hasty, that you or the printer let the hyphen slip in on the wrong side of "box." My hives are not box-hives, though many boxes go into their construction.

I wish that Mr. Hasty would tell just what he has in mind when he says: "Apart from his way of making the body of it, say." Does Mr. Hasty still lift heavy stones whenever he opens a hive? My covers never blow off, though there is nothing but cover above the hive. Let the cover be made with a deep rim, and nothing short of a hurricane will blow it off.

No, the paper will not rot under bricks or stones, for all water quickly evaporates from these dark-colored covers, unless, indeed, the shade be rather dense.

No trouble at all about ice in spring. The dark color of the paper will cause the ice to melt so that it is always out of the way long before any sane bee-keeper is monkeying with his bees. I am not sane, and so I simply slide the ice off after the sun has loosened it, as it will invariably do every day fit to take a peep at the bees.

Will Mr. Hasty kindly name any advantages to be gained by tilting hives forward? I'd like nothing better than to have him stand his advantages up in a row so that I could snowball them.

Dr. Miller's genial way of "saying his piece" is no less thawing than Mr. Hasty's is melting. I sometimes wonder what the good "Old Reliable" would be were these two gentlemen to be taken away. It would be an awful example in subtraction for me.

Dr. Miller, it would be hard to convince a skeptical person that a dark hive can be cooler in summer, but warmer in winter. Had I not found it true by my own observation I think that I should be an unbeliever. Though a dark hive will cool off more rapidly than the white one in summer, it will get no cooler in winter. Both hives are as cold in winter, on the outside, as they can be; that is, they are as cold as the surrounding air, approximately. The white hive seldom gains much heat from the outer world, the black hive frequently gets it. The extra heat of the black hive may become lost readily, but after it is lost the black is as well off as the white.

Let it be written in red letters that I do not advocate black for single-walled hives. I advocate black for double-walled hives only, and should hesitate to paint single-walled hives black. I should fear that such hives would get too much heat if in the sun, and would cool off too much if in the shade. For winter, however, they would be excellent.

I wish to say here, too, that in some locations hives cannot be kept in the shade wisely. I find that, unless the shade is broken—not dense—and there is free chance for the winds under the trees, the honey is poorly ripened. If one has well-pruned fruit-trees on high ground, or shade such as they would furnish, he can expect good results with hives set in the shade. But if his hives are set in a shady nook where the winds gain little access, and where the dew is wont to linger well into the forenoon, he will find his honey to be of light body and inferior flavor.

On page 185, Mr. Davenport treats us to another of those irritating mustard plasters such as he put upon us a year or so ago. As I read this latest article I glanced around for a brick, but realizing that I could not throw it so far I chose another weapon.

It is difficult to understand Mr. Davenport's attitude, and probably my thought is the same as that of hosts of other readers. What is he after? I have a happy thought! Perhaps he is waiting to be "called!" So here goes! Mr. C. Davenport, *I don't believe it!!!*

Norwich, Conn.

Convention Proceedings

Report of the Wisconsin State Convention

BY HARRY LATHROP.

[Continued from page 278.]

A good paper was read from Mrs. Millie Honaker (who was not present), on

ECONOMY IN BEE-KEEPING

Like everything else, bee-keeping demands the expenditure of a certain amount of money, labor, and time, before satisfactory results can be obtained. More, however, than is necessary to provide all things needful is not called for, and is actual extravagance. True economy is judicious saving—simply another name for good management. It does not mean doing without a necessary article to save its cost, but reducing cost, if possible, and using to the best advantage afterwards. Nor does saving labor and time mean leaving a thing undone which it would be profitable to do, but, instead, finding a shorter and easier method of doing it. How to economize in a monetary way will be our first consideration. After this we will study a little into ways and means of saving labor and time.

Hives are the bee-keeper's first and greatest essential. Unfortunately, they are also his most expensive, even when obtained as cheaply as possible. To buy them ready to use at retail is to pay an almost prohibitive price for them. To buy in small quantities in the flat, of retailers, is also to pay too much. If they must be had already cut, they should be bought enough at a time to enable one to take advantage of quantity prices. In 50 to 100 lots they may be obtained for about two-thirds what they would cost a few at a time, especially if bought already nailed and painted. To be sure, none except the most extensive bee-keepers ever need so many hives in any one season, but a number could order together, and in this way all obtain the same advantage. This not only applies to hives, but to other supplies as well.

But a still further saving may be accomplished in many instances by ordering from wholesale lists, gladly furnished to small retailers by manufacturers and their head agents. Turning to one such, recently sent me, I find that I can obtain quite a reduction from regular catalog prices, especially on quantity lots. There are always a number of small bee-keepers in every neighborhood who are glad to buy what little they need at home, thus enabling one to dispose of enough to take advantage of both quantity and wholesale prices. These wholesale prices are not granted to every one, of course, but usually to one in every community—as a rule, to the most extensive and wide-awake bee-keeper who applies for them. Besides what may be saved in this way, there is always a considerable discount allowed on out-of-season orders, and all this is, to my mind, economy which may be profitably practised.

But returning to hives once more. If the bee-keeper has upwards of 40 colonies, especially if he expects to increase to any great extent, it will pay him to put in such machinery as is necessary to cut down his own hives. Particularly is this true if he has already some kind of available power with which to run it. Cutting machinery alone costs but little, and, if many hives are needed, will easily pay for itself several times over in a single season. We have used a home-made hive-cutting machine ever since we began keeping bees, and have found it in every respect perfectly satisfactory.

Even if one has no power of any kind, it might pay to buy one, especially on the farm, where it could be used for many other kinds of work. A gasoline engine of from one to three horse power is now comparatively inexpensive, and one of the coming essentials on the farm.

But there are other ways of managing. One extensive bee-keeper whom I know solves the hive-making problem to his satisfaction by hauling his material to a lumber-finishing mill and hiring it cut up into hive parts. A few days' extra work and a small cash outlay enable him to get his hives at a figure considerably below factory prices.

Again, in most high-class carpenter shops there are small power-saws, and, as a rule, the owners are glad to do, for a reasonable sum, such work as may be had during the slack winter season. If many hives are wanted, it will be found cheaper to hire them cut than to buy them so.

But, as said before, the better way is to put in such machinery as is needed, if some kind of suitable power may be had. Our little machine cost us, all told, something less than $12 for material, the work being done at home by the master himself. Any good carpenter, however, could put up one equally as good in a couple or three days, so that cost of building need hardly be considered. Up till last summer it was run with a light horse-power, but is now attached to a little gasoline engine, used for pumping water and other light work. With one operator from 20 to 30 complete hives may be cut in a day. With an assistant the number may be easily doubled. We have never done a whole day's cutting at any one time, but I am sure I have not over-estimated its capacity. Hoffman frames, either square or beveled; hive rabbets, even hand-holes, are neatly and rapidly cut out. It does not, of course, cut a dove-tailed corner, but instead we make what we consider just as good, which is a halved corner.

Besides cutting hives, we use this machine for many other kinds of particular work—window and door frames, anything, in fact, which ordinarily requires the use of the miter-box, is cut out here. It is really surprising how often, and for what a variety of work, it is used. Start the engine, throw on the belt, and it is ready at a moment's notice.

We are often asked what our home-made hives cost us. We do not use a standard hive ourselves (which is one more argument in favor of the machine, since special-sized factory-made hives always cost extra), but we frequently make it for others. Estimating 15 feet of $40 lumber to the 8-frame, 1½-story hive, I find, including labor, they cost about 65 cents each. This is an over-estimate, if anything, as it takes hardly 15 feet of lumber and some parts may be made of narrower and less expensive material.

But hives, while the most important, are not all the bee-keeper must have. Comb foundation is another important item. No up-to-date bee-keeper would consider it economy to do without a generous amount of foundation, even if it cost much more than it does. But while it would still pay to use it at a considerable advance over present prices, this does not mean that we should pay more for it than is absolutely necessary. All of us produce more or less wax. Could not something be saved by sending it to some reliable manufacturer to be made into foundation for our own use? I am offered 28 cents for clean wax. Cannot I have this made up for less than the difference between the price of the wax and the cost of foundation? I think I can. Any way, I am going to try.

There are, however, various other things which we must have and which we cannot make ourselves, or hire made of our own material. Sections are perhaps the most expensive of these, and about which we hear the most complaint. Like hives, they should be bought in quantity, at least as many as can be used and disposed of in any one season. Even if a few are left over, if properly cared for they will be just as good another year.

But while I would advise buying as cheaply as possible, I would not advise using a poorer quality or restricting the quantity. It is no economy to use rough, discolored sections and take less for our honey on account of them. Nor is it economy ever to buy or use a cheap article because it is cheap, or to do without a needed article to save its cost. We should not hesitate to buy what is needed, and, as a rule, the best is the cheapest. True economy, to my mind, lies in buying wisely rather than cheaply, although as cheaply, certainly, as is consistent with quality.

But, as said before, it is no economy to do without what is needful. For instance, to get along forever without a change of stock. A few queens each season are ordinarily an economical investment, since it is only in this way that vitality and vigor of stock can be kept up to the highest standard. I know Dr. Phillips says improvement can be best brought about by in-breeding, but not promiscuous in-breeding, such as necessarily happens in the ordinary apiary. There is no practice more disastrous in its results that this, let it be where it will. A single requeened colony will often produce enough more honey to pay for two or three queens, while the value of one new queen's influence in the yard is beyond estimation.

Economy of time and labor come next. Both have a considerable money value, especially on the farm where hard-to-get and high-priced help must be employed to do that which the master cannot get to do himself. As a rule, to save labor is to save time, and therefore money, which means to increase profits.

But even when to save labor is not to save time, it is still worth while to spare one's self as much as possible. We are not likely ever to suffer for exercise, and it is something to escape exhaustion whenever we may. Mechanical power is always cheaper than physical, and should be employed when available. Here is where our little engine comes in handy again. The engine-room is tight and well built, so we do our extracting here. It is also large and commodious, and adjoining the original honey-house, so it is convenient to use in this way. We have always before run the extractor by hand, and many a time with a tired arm, but this is now a thing of the past. By the way, both cream-separator and washing machine will also be operated in this way during the major portion of the year, thus saving a considerable amount of other hard work. This plant cost us quite a neat little sum, but as we look at it, it is a good investment.

Convenience is always economy, so everything needful to do the work expeditiously and well should be provided. Anything which will save labor and time to a greater value than its cost is an economical investment. In this list may be included numerous small articles and many large ones. Foundation cutters and fasteners, tanks with faucets, strainers, and all such, are worth much more to the bee-keeper than they cost him. An efficient smoker, good veil and gloves, and several other things, might also be mentioned.

Along this same line I would say that any machine or other labor-saving device which will do the work required of it enough better or faster to save in labor or time the difference in cost between that and another, is the cheaper in the end. No bee-keeper of any consequence ever made a greater mistake than to buy a one or two frame extractor. It is like a 50-egg incubator—little more than an aggravation to the soul. A large machine will do a little work just as well as a little machine, and whenever more is required it is not found wanting.

It is also economy of labor and time to keep everything in and about the honey-house and apiary in readiness and in good condition. Time, for instance, occasionally to sharpen the uncapping knife—but being a woman, I have to own to sometimes using mine dull. Still a little spice, judiciously administered, usually results in a speedy improvement.

Attention, we are told, is the cheapest element in the apiary. To do a thing when it should be done takes no longer than to do it out of season, and may mean the difference between profit and great loss. It is not economy often to put off a thing beyond the time when it should be done to save the cost of a little help. There has lately been quite a discussion in one of our most prominent bee-papers along this same line. One man claimed to have lost 50 colonies because he could not find time to give them needed attention at the proper season. A few dollars spent for help would have been economically invested. It is probable that most of us have had a similar experience, though perhaps not so disastrous a one. It takes no more time to feed needy colonies in September than it does in November, though perhaps time to do it early might not be so available. In that case a little help, let it cost what it would, would be wise economy.

In conclusion, let me repeat what was said in the beginning, that true economy is judicious saving—another name for good management, and another for wise spending as well. Mrs. Millie Honaker.

BEE-KEEPING—ANCIENT AND MODERN

It is a frequent expression of Scripture and secular writing, that a land where milk and honey flows is highly prosperous. Honey was used as a great luxury, as food and as medicine. Jacob, when sorely afflicted, sent his sons to Egypt to buy grain, and to appease the governor (Joseph) said to his sons who were to start for the second trip: "If it must be so now, do this: take of the best fruits in the land in your vessels and carry down the man a present, a little balm and a little honey, spices and myrrh, nuts and almonds."

The Lord God said to Moses: "I have surely seen the affliction of my people which are in Egypt, and have heard their cry by reason of their taskmasters: for I know their sorrows. And I am come down to deliver them out of the hands of the Egyptians, and to bring them up out of that land into a good land and a large, into a land flowing with milk and honey."

The Lord God said unto Moses: "We came unto the land, whither thou sentest us, and surely it floweth with milk and honey."

Deuteronomy 6, 3: "Hear, therefore, O Israel, and observe to do it; it may be well with thee, and that you may increase mightily, as the Lord God of thy fathers hath promised thee, in the land that floweth with milk and honey."

Joshua 1, 6: "For the children of Israel walked forty years in the wilderness, till all the people that were men of war, which came out of Egypt, were consumed because they obeyed not the voice of the Lord; unto whom the Lord sware that he would not shew them the land, which the Lord sware unto their fathers, he would give us a land that floweth with milk and honey."

Jer. 11, 5: "That I may perform the oath which I have sworn unto your fathers to give them a land flowing with milk and honey as it is this day. Then answered I and said: So be it, O Lord."

Jer. 32, 22: "And hast given them this land, which thou didst swear to their fathers to give them a land, flowing with milk and honey."

Ezekiel 20, 6: "In the day that I lifted up mine hand unto them to bring them forth of the land of Egypt into a land that I have espied for them flowing with milk and honey which is the glory of all lands."

Exodus 16, 31: "And the house of Israel called the name thereof manna, and it was like coriander seed, white, and the taste of it was like wafers made with honey."

Levit. 2, 11: "No meat offering which you shall bring to the Lord shall be made with leaven, for ye shall burn no leaven nor any honey in any offering of the Lord made by fire."

Deut. 8, 8: "A land of wheat and barley and vines and fig trees and pomegranates, a land of olives and honey."

Levit. 32, 13: "He made him ride on the high places of the earth that he may eat the increase of the fields; and he made them to suck honey out of the rock and oil out of the flinty rock."

Judges 14, 8: "And after a time he returned to take her, and he turned aside to see the carcass of the lion, and behold there was a swarm of bees and honey in the carcass of the lion."

Judges 14, 18: "And the men of the city said unto him on the seventh day before the sun went down: What is sweeter than honey, and what is stronger than a lion? And he said unto them: If you had not plowed with my heifer, you had not found out my riddle."

1 Sam. 14, 25: "And all they of the land came to a wood, and there was honey upon the ground. The honey dropped."

2 Sam. 17, 29: "And they brought honey and butter and sheep and cheese for David and the people who were with him."

1 Kings 14, 3: "And take with the ten loaves, and cracknels, and a cruse of honey, and go to him: he shall tell thee what shall become of the child."

2 Kings 18, 22: "Until I come and take you away to a land like your own land, a land of corn and wine, a land of bread and vineyard, a land of oil and of honey."

2 Chron. 31, 55: "And as soon as the commandment came abroad, the children of Israel brought in abundance the first fruits of corn, wine and oil and honey."

Job 29, 17: "He shall not see the rivers, the floods, the brooks of honey and butter."

Psalms 19, 10: "More to be desired are they than gold, yea than fine gold; sweeter than honey and honey-comb."

Prov. 24, 13: "My son, eat thou honey, because it is good, and the honey-comb, which is sweet to thy taste."

Prov. 25, 16: "Hast thou found honey? Eat so much as is sufficient for thee, lest thou be filled therewith and vomit it."

Isa. 7, 15: "Butter and honey shall he eat that he may know to refuse evil and choose the good."

Jer. 41, 8: "But ten men were found among them that said to Ishmael: Slay us not, for we have treasures in the field of wheat, and barley, and of oil and of honey."

Ezek. 3, 3: "And he said unto me: Son of men, cause thy belly to eat, and fill thy bowels with this roll that I give thee. Then did I eat it, and it was in my mouth as honey for sweetness."

Ezek. 16, 13: "Thy raiment was of fine linen and silk, and broidered work; thou didst eat fine flour and honey and oil."

Math. 3, 4: "And the same John had his raiment of camel's hair and a leathern girdle about his loins, and his meat was locust and wild honey."

Psa. 19, 10: "More to be desired are they than gold, yea than much fine gold; sweeter than honey and honey-comb."

Prov. 5, 3: "For the lips of a strange woman drop as a honey-comb and her mouth is smoother than oil."

Prov. 16, 24: "Pleasant words are as honey-comb, sweet to the soul and health to the bones."

Prov. 27, 7: "The full soul loatheth a honey-comb, but to the hungry soul every bitter thing is sweet."

The ancients had plenty of honey from the beginning of time. Honey and wax were used in great quantities. But the means of obtaining honey and wax were cruel, rude and primitive. Very little literature, if any, exists to tell the story. The importance of the honey industry would justify research in the old history, and some wise men might dig in the old, dusty libraries to find the sweet truth about the home industry of our ancestors.

Bee-keeping is an important industry, especially with the help of modern inventions—the modern hive in place of hollow trees, or cracks in the rocks; the movable frame, comb foundation, the honey-extractor. To get honey and wax from bees now, we need no fire and brimstone; we simply shake the bees off and let them live. We need not fear cross bees any longer, but make them well-behaved by introducing gentle queens or queen-cells. We need not fear any longer that fell destroyer, "foul brood," but follow the counsel of the foul-brood inspector.

Bee-keeping is nothing mean, but elevates the mind. The bee gathers honey only and no poison—never; and is clean always.

Bee-keeping will last as long as Time will last. It is an industry now more than ever. The ancients had their annual sheep-shearing and made holidays, calling on the sheep-breeding fraternity for mutual help and feasting. So we have our love-feast in mid-winter, meditating about the sweet harvest in summer. There are untold millions of acres of nectar for bees to collect. The number of consumers is increasing. Freight trains loaded with honey tell of enormous harvests and profits. The outlook, all in all, encourages bee-keeping. Horace Greeley recommended, "Go West, young man, go West." We as well say: Keep bees, young man (and woman, too), keep bees!

Rev. H. A. Winter, Octogenarian.

Quite a little was said in favor of placing bees on the summer stands so early in the spring that they would not fly out for a week or more after being taken out. This is new to a good many, but I think more will try it.

The election of officers for the ensuing year resulted as follows: President, N. E. France, of Platteville; Vice-President, Jacob Huffman; Secretary, Gus Dittmer, of Augusta; and Treasurer, A. C. Allen.

I will close by saying that we had as good a convention as would be possible without the ladies and the editors; but, dear ladies, and twice dear editors, don't let it occur again. You must come with us next time. Bridgeport, Wis.

Report of the Michigan State Convention

BY MORLEY PETTIT.

The Michigan State Bee-Keepers' Association held its annual convention at Jackson, Feb. 1 and 2, 1906. The sessions were well attended by bee-keepers from all parts of the State, as well as from adjoining States and Ontario. The latter Province was represented by R. F. Holtermann, W. A. Chrysler, N. Smith, Mr. Stewart, and Morley Pettit. Mr. E. R. Root, editor of Gleanings in Bee Culture, contributed one of the most entertaining parts of the program. These outsiders were very cordially received, and tendered a hearty vote of thanks for their presence and help in the program and discussions.

Pres. W. Z. Hutchinson occupied the chair, and together with Secretary Elmore M. Hunt, who had so energetically advertised the convention, conducted one of the livest conventions it has been the writer's privilege to attend.

A Non-Swarming Hive.

One of the features of the convention was a non-swarming hive shown by L. A. Aspinwall. He has been carefully experimenting with this hive for 17 years, and was persuaded to make it public, although there are features about it with which he is not quite satisfied yet. The principle involved is that the cause of swarming is *bees*. The ordinary hive becomes overcrowded with bees, and the result is swarming. To overcome this, more space must be given for the bees to cluster while producing wax, etc. Like any other, Mr. Aspinwall's hive has the combs together for winter and spring, but as soon as the swarming season approaches he removes the combs containing the least brood, and spreads the remaining combs by alternating them with slatted dummies, which give wide spaces between the combs for the bees to cluster in, but so divide these spaces that nowhere is there more than a bee-space, and no comb will be built. The comb-honey supers are arranged in the same way. Slatted separators are used, with the slats turned crosswise of the separator, so that the spaces between sections are much wider than in ordinary supers, and the bees can cluster these spaces practically full. He uses drone foundation in a part of his sections.

It is thought that with this hive even Carniolan bees could be used for comb-honey production with large results, and practically no desire to swarm.

Mr. Aspinwall attaches great importance to strong colonies, held together throughout the whole year with no swarming. Any increase desired can be made by nuclei. He detailed results he had had from this hive which showed quite decidedly that it is worth at least the serious consideration of all progressive bee-keepers.

Along the line of non-swarming, R. F. Holtermann advocated a large brood-chamber, and correspondingly large storage capacity. He considered swarming a misfortune. Some bee-keepers want increase to replace winter losses, but, as a rule, bees can be bought cheaper than they can be produced by swarming. The first symptom of the swarming impulse is the production of drone-brood. The second is the starting of cell-cups. The factors which induce swarming are a crowded condition of the hive, high temperature, bad air in the supers due to lack of ventilation. To prevent swarming, put wedges between the bottom-board and the hive, giving a large entrance; use a 12-frame Langstroth hive, and a good queen will fill it just as well as she will an 8-frame brood-chamber. Use at least two supers on each hive, so as to get a hive capacity in proportion to the production of bees and honey.

As to race of bees, Mr. Holtermann prefers a hybrid of about three-quarters Italian and one-quarter black.

A ventilator slide in each extracting super gives fresh air directly into the super without its having to pass through the brood-chamber and up. When bees are kept together without swarming throughout the season, they go into winter quarters in a more uniformly good condition, and come out in the same way in the spring.

Mr. Aspinwall here referred to the chapter on swarming in Mr. Hitchinson's new book, where he says swarming is a thing of the past. This is a luxury, a comfort; to be able to produce good crops of honey without the worry of swarming. One can get all the white honey without swarming, then make increase of nuclei in the fall season.

Morley Pettit endorsed what Mr. Aspinwall and Mr. Holtermann had said about the advantage of holding bees together without swarming. The wedges for large entrance; the divider, to allow for a double layer of bees around the outside of the sections in the super; and the upward ventilation he had learned from his father, Mr. S. T. Pettit, and had always used. Upward ventilation is essential to the most successful production of extracted honey; it is equally good in comb-honey production, with this difference, that it should be closed as soon as the sections are filled and capping begins.

Many who admitted that the large brood-chamber and the Aspinwall hive were a good thing, objected that they had their supply of hives, and it would be expensive to change. Mr. Pettit replied that it paid farmers to throw away their cradles and buy reapers; then their reapers were discarded for self-binders, etc. Hundreds of dollars were spent on farm implements which are of no more practical value to farmers than are the improved hives and machinery to bee-keepers.

Messrs. Hutchinson, Root, Aspinwall, Holtermann, and others, spoke along the same line—that the secret of success in any business is to hold oneself always ready to adopt the very latest improvements. No matter how much is invested in a machine, be prepared to discard it for a better if by so doing the cost of production can be ultimately lowered. Business principles must be followed to insure success.

Mr. Bingham, of smoker fame, referring to super ventilation, said the draft is always downward. This is the bees' patent way of ventilating, to blow air out at the entrance. Instead of an opening in the super, he would accomplish the same result by sliding one super slightly forward and the next one back. Bees will build honey right up to the ventilator.

E. R. Root, speaking of bees coming into a large entrance, said he had often watched them fly right in and alight in the under side of the cluster.

Mr. Holtermann said the bees never use the super ventilator for an entrance except when by any accident the queen gets up, and they are using the super for a brood-chamber.

Morley Pettit said some object, that cross bees come from these ventilators to sting people going along behind the hives. The ventilators should be narrow, about ⅜-inch by 4 inches long, then have them open only in the honey-flow. As soon as robber-bees begin to hunt around, the bees of the hives are on the defensive at the ventilators, but not at other times.

The following paper was read from C. P. Dadant, on the

MANAGEMENT OF OUT-APIARIES

I believe it is a mistake to write long essays for bee-conventions. The greatest gain derived from a convention is in the discussions of the subjects by the members present. A slight introduction of the subjects by papers is sufficient, in my estimation, and I trust that for this reason you will excuse the shortness of my essay.

Just now the tendency seems to be towards larger apiaries at home and a less number of out-apiaries. It is quite probable that in a case of most extraordinary and favorable conditions it may be advisable to keep as many colonies in one spot as lately reported from a noted New York State bee-keeper, but in many instances the keeping of over 100 colonies in one spot would prove unprofitable. This, at least, was our experience. It is not so much during the heaviest flow that a large number of bees in one spot is objectionable, for the large crops seem to produce flowers enough for an incredible number of colonies, but it is during inferior seasons, and especially in the early and late part of the season that a large number of colonies in one spot is unadvoidable in my experience. The fruit-bloom of a number of orchards may prove quite beneficial to an apiary of 100 colonies, if there are not too many other small apiaries in the immediate vicinity, but with 300 or 400, it is quite probable that the bees would not gather enough even to keep up breeding without some help from the apiarist. We, therefore, have considered it advisable to keep not more than from 80 to 100 colonies in one spot.

It is necessary for me to say that we use large hives, and as these hives give full scope to the breeding of prolific queens, it is possible that a larger number of colonies in small hives could be kept profitably in the same space.

Our first attempt at keeping out-apiaries was made in 1872, with the production of both comb and extracted honey. We soon ascertained that unless we produced extracted honey altogether, in large hives, it would be out of the question to control swarming entirely, and with an out-apiary we think swarming is still more of a nuisance than it is in the home yard.

Swarming may be acceptable to those who wish to increase the number of their colonies and do not desire to go to the trouble of making artificial swarms or divisions, but to the man who has enough bees and who only desires increase enough to make up for winter losses, swarming is objectionable, for it is usually the hives that would produce the greatest quantity of honey that do swarm, and what we want from our bees is honey, not more bees.

For the above-mentioned reasons, it has been our aim to fit our out-apiaries with the necessary implements for the production of extracted honey. We have at each place two sets of supers with full combs for each hive. There are colonies which require only one super, but there are some that require 3 and even 4, and an average of 2 supers full of combs for each colony is about right. If the season is above average, the crop is usually protracted enough to enable the honey to ripen before the end, and we extract all that is ripe, to make room for more.

We keep a few hives ready for swarms, in case some should escape; but in an experience with out-apiaries of more than 30 years, we have so few swarms that in many cases it has been found unprofitable to watch for the few that might escape. When colonies get a good start in large supers already filled with combs, and are kept supplied with a sufficient amount of empty comb, there is very little propensity to the swarming fever, except in such colonies as may be making preparations for superseding their queen. We have usually secured the increase by rearing queens from our best colonies and building up nuclei containing them into full colonies by supplying them with combs of brood from time to time.

We never haul the bees back home, unless it is for a radical change from one spot to another. We never haul the combs home to do the extracting, but we do all the manipulations on the spot, thus saving time and annoyance in hauling things back and forth. I have seen apiaries where the work was done by taking the full supers home and bringing them back again, but I am satisfied that our method is more practical and expeditious.

With well-supplied apiaries, less than a dozen trips are needed to do the most important work in an out-apiary: One trip in early spring to investigate the after-winter conditions, and clean out the dead bees; two trips during the spring to look after queenless colonies and feed the needy ones; one trip to put on the supers; two visits during the harvest to add room or equalize supers; two trips for extracting; about three visits more for the late crop, and one for putting the bees in winter quarters. If artificial increase is wanted, it will require probably four additional visits. In very bad seasons, extraordinary circumstances may make more frequent visits needed, but in those bad years, no extracting will be done, and some economy of time will be secured thus, though much to the regret of the apiarist.

This method of management, is, in my experience, the most economical for the keeping of out-apiaries.

C. P. Dadant.

There followed a discussion on drawing home combs of honey to extract. Many good bee-keepers advocate having a central establishment fitted with storage-tanks, power for running the extractor, etc., then haul home the supers to extract, and haul the empty combs back to the yard again. They claim that the trip must be made morning and night anyway, and it is just as well to take a load of empty supers and bring a load of full ones. Then the honey is home without further hauling. Often there are not suitable buildings at out-yards for extracting.

Mr. Manley overcomes the honey-house difficulty by setting up stakes and covering with canvas to make a tent. This is a very hot place to work, but it keeps the bees out, and the honey strains well for being warm.

Morley Pettit said he had tried the plan of hauling combs home to extract and found it very objectionable. There is the extra teaming; supers and combs have to be drawn home and back again; the difficulty of keeping robber-bees out of the supers while so many are exposed at once on the wagon; and some bees are sure to be around making it dangerous to take a team to the wagon. The honey is all cold when it gets home, and must be heated artificially—a slow and expensive process—else extracted and strained cold, which is disagreeable and unsatisfactory, to say the least. All this work has to be done at a time when moments are dollars, and when often even the honey is not wanted at home.

Most of Mr. Pettit's honey never comes home, but goes direct to the station, probably in an opposite direction.

E. D. Townsend quite agreed with Mr. Pettit, and told of one yard in Northern Michigan where the honey does not even need to be loaded on wagons, but goes direct from the honey-house to the car, placed on a convenient siding for the purpose.

Queen-Excluders—Pollen in the Sections.

Almost every one voted to use queen-excluders in the production of extracted honey. For many reasons we do not want the queen nor the drones in the super-combs. In the production of comb-honey they are good to keep pollen out of the sections, but increase the tendency to swarm.

With reference to pollen in sections, Mr. Aspinwall mentioned his drone foundation. Bees very seldom store pollen in it, and as it is the natural size for storing honey, they seem better satisfied with it in sections than the other. If some drone-comb is allowed in the brood-chamber, the queen almost never goes up to lay in it.

Performing Bee-Men at Fairs.

One of the features of the convention was a talk by E. R. Root, on showing bees in a tent at county fairs and other public gatherings, and performing feats in handling them with bare hands and arms, which, to the uninitiated, are on a par with lion-taming and snake-charming. This attracts great crowds, advertises the bee-keeper and his honey, and sells large quantities of honey at the time. Mr. Root said he had this idea from Mr. S. D. House, of New York State.

Mr. Holtermann complimented Mr. Root as his "grandson" in this idea, for he had exhibited bees in a tent at the Toronto exhibition 11 years ago, and Mr. House learned it from him.

A discussion on obtaining better profits on honey followed. Mr. Aspinwall showed that profits depend largely on decreasing cost of production, by improved hives and machinery.

Mr. Soper brought out the disadvantage of offering small packages of honey.

Mr. Chrysler said, always keep your dealer safe. Never let him lose on your honey, and he will feel safe to buy from you at any time.

The main point in the sale of honey is to produce and market a good quality of honey. Show dealers that you have perfect confidence in your honey and so inspire their confidence.

The following paper was read by E. D. Townsend:

FEEDING BACK TO GET PARTLY-FILLED SECTIONS COMPLETED, AT CLOSE OF HONEY SEASON

In discussing the subject of feeding back to get all of the part-full sections in a good, marketable shape, we have a subject of very great importance, for with the Barber, as the comb and extracted honey from the same super plans, as with any system known, even if we *try* to get the last super of the season in the extracted form, we *still* have the season to contend with, for next season may be only half as long as last, and there you are, with sections in all stages of completion, and the only alternative is to feed up these half-full sections for the market, and the object of this paper is to tell the members of this convention how to do it in a satisfactory manner.

Now, I am going to tell you what all practical comb-honey producers know, as by this way I can better illustrate the main point. It is this:

As the honey season begins to draw to a close, usually, with a gradual falling off of the honey-flow, the bees begin to cap the sections a little thinner each day, until 5 or 6 days after the flow fails, when the capping will cease entirely for want of honey to work with. Now, at this point, we move all the sections from the hives, no matter in what stage of completion they are. They are all taken to the honey-house and those that are in marketable shape are cased up, and all the part-full sections are put back into the supers to be fed for completion, selecting sections that are as near alike as possible for each super; that is, the fullest sections are put in one super, then the medium in the next, then those with only a little honey in, in another. The object of selecting sections that are in the same stage of completion is so each super will be finished in a more uniform manner.

I told you above, as the season draws to a close, sections were capped over thinner and thinner until a few days after the season closes, then capping ceases entirely. While the sections finished during the main flow might weigh 15 to 15½ ounces, these later ones likely would not weigh over 11 to 12 ounces; while the 15-ounce section will have the regular bee-space between the section and separator, the light-weight section would have much more space than usual. Now, the part-full sections that we are going to feed to get finished for market, are all the way from very little or none at all capped, to nearly all capped; and what openings there are, are somewhat travel-stained.

Now, when we commence to feed, the unsealed portion of the section is drawn out to the regular thickness, or a little thicker than the 15-ounce section mentioned above. This makes an ugly-looking, patched capping job, with part thin, travel-stained surface, and part plump and flat, with brand new cappings—an unsatisfactory job, and honey that will bring only a little better than No. 2 price.

Now the remedy is so simple that it is a wonder that all haven't practiced it before. It is to uncap the sections we are going to feed, and let the bees draw them out to the regular thickness of comb, and cap them over anew. The results were more than satisfactory, as the sections were the best filled and the heaviest weight of any we produced last year. But the main point is, it sold with our fancy and No. 1, at 15 cents on the car, while if fed in the usual way it must have gone in a grade by itself at a lower price.

Then if one produces comb-honey without separators, this idea is even more valuable. You simply uncap the fat, crooked surfaces deep; or, in other words, level up the sections with the uncapping knife before feeding, by thinning up the thick combs, and uncapping the thin combs by just taking barely the cappings off, then grading them as to weight, etc., when putting them into the super, as I told above.

Anyone who has never tried, cannot imagine what a job it is to match up partly filled sections from different supers to feed back, but in this new method the uncapping-knife does the matching, as all are trimmed smooth and even, and will fit in any place equally as well as if separators had been used.

E. D. TOWNSEND.

UNCAPPING MACHINE.

A labor-saver which has long been desired seems now to be an accomplished fact. Pres. Hutchinson read a letter from a New York State bee-keeper asking how many members would be willing to pay $35 for an uncapping machine. He was not at liberty to describe the machine, or give the man's name. Then E. R. Root described a machine made and used by a California man, who has proved it to be a success. In principle it is two rollers about 7 or 8 inches in diameter, which turn at a rate of 1,000 to 1,500 revolutions per minute. Thousands of fine points on these rollers pick the cappings off the combs as it passes down between the rollers.

R. F. Holtermann said he was working on the same idea independently, so we have the uncapping machine coming from three different sources, and can feel assured that it will be a sucess.

FOUL-BROOD INSPECTION.

A prolonged discussion on foul-brood inspection brought out the views of many of the members on this important question. It was agreed by all that the work of controlling or doing anything towards eradicating the disease was entirely too great for one inspector, and the meager Government grant.

Morley Pettit said the discussion reminded him of similar discussions in the Ontario convention. The same conditions and the same needs prevail there. At the last Ontario convention it was decided to divide the Province into three divisions, with three inspectors. This was a step in the right direction.

Mr. Root moved that a committee of Mr. Hutchinson, the present inspector, Mr. Hilton and Sec. E. M. Hunt, be appointed to consult the Legislature and endeavor to get a larger grant and more thorough inspection. Carried.

SIZE OF SECTIONS.

Mr. Root, when called upon to speak on this subject, said at present in the United States sections sell in this order: The 1⅞ bee-way 4¼x4¼ sections sell best; the 4¼x¼ plain sections sell next in order; and the 4x5 plain sections come last in the list. Plain sections do not grow in preference as rapidly as when they were first introduced, but they are steadily making headway.

Mr. Aspinwall showed a shipping-case for comb honey without glass in the front, and with a new device for holding the slats in place in the bottom.

Mr. E. D. Townsend read the following paper:

THE HARVESTING OF EXTRACTED HONEY

Our practice in producing extracted honey is to furnish surplus combs enough to hold the whole crop of white honey, being careful towards the close of the season not to give any more room than is necessary to hold the crop, for it is just as necessary that extracted honey should be sealed and finished, as it is that comb-honey should be sealed and finished before taking from the hive.

Then, 10 days or 2 weeks after the season closes, when the bees are all through capping and curing their honey, we are ready to extract.

At this stage, if we have made a good guess, and have not given unnecessary room, 90 percent of all the honey in the hives ought to be capped.

Before getting to the kink I am about to explain, we used to go over the yard and select all the full, all-sealed upper stories, and extract them by themselves; then the part-full and unsealed upper stories were extracted by themselves. Then when drawing off from the tanks into 60-pound cans, the last can or two drawn from the best grade—that is, the thin honey that always rises to the top—was kept separate, and went with the No. 2 mentioned above.

Now with the ordinary way of supplying abundance of store-combs, without any regard as to how they are sealed and finished, it will be seen how easy it is to get as much as one-third of one's crop of this No. 2 grade. This large amount of No. 2 honey on our hands, that had to be sold at quite a little less price, got to be a serious matter from a financial standpoint. Then we take quite a good deal of pride in producing a superior article of extracted honey, and we did not quite relish the idea of having so large a percent of this inferior honey to sell, that we had just as lief our customers would think some one else produced. Similar experiences as these set us to thinking, and we "got onto" the kink I will explain. It is as follows:

We set two extractors near together for convenience. We use, for this method, a 2-frame and a 4-frame extractor. Now as part of the combs to be extracted are brought in from the hives, they are sorted over, and any that are not all sealed, are run through one extractor *before* uncapping. Then the combs go to the uncapping tank and are uncapped and extracted in the other extractor. And right here is where the benefit of the second machine comes in; and that is, everything is finished, as we go, before the honey gets too cool to extract well, as it surely would do if we should try to do all the work with one extractor.

This is the only practical way of getting *all-sealed* extracted honey that we know of, and I assure you this best grade is a fine article, and we get our pay in a ready market at from 1 to 2 cents a pound above the market price for our honey.

This No. 2 honey is used to "feed back" to get the part-full sections of comb-honey completed, that I told about yesterday. Those who feed bees honey for winter stores, can use this thin honey to feed up light colonies for winter. We sold what we had left at a less price than the better grade, and bought sugar to feed our light colonies, as we like sugar best for winter stores. While the best grade of honey produced with this system is of a rich, oily body, with a very fine flavor and aroma, the No. 2 is thin, and "off" in everything that goes to make good honey. I have a sample of each grade at this convention, extracted at the same time, from the same colonies, for inspection.

E. D. TOWNSEND.

While honey can be ripened after it is extracted, the general opinion was that it is better to have it practically all capped in the comb and left with the bees as long as possible before it is extracted.

O. H. Townsend said that to ripen honey off the hive it must be kept in a room at a temperature of 80 to 100 degrees. There are sometimes damp summers, with a very slow flow, when bees do not ripen honey well. In such circumstances artificial heat should be used.

Mr. Holtermann suggested that Government tests should be made to ascertain the best methods of ripening honey.

E. R. Root said this matter was tested last season at the Medina yards, and it was found that the longer the honey was on the hive the more it was chemically changed, and even after it is capped this change goes on.

RACES OF BEES.

Mr. Aspinwall said, if the non-swarming hive is an assured success, he prefers Carniolans. The Manleys, R. F. Holtermann, Morley Pettit, and others, agreed with this.

Mr. Holtermann had tried them 8 or 10 years ago and condemned them, but when he tried them recently with large hives he found them more successful.

Mr. Pettit found them gentle to handle, energetic to gather honey, and warm-blooded to build up brood early in spring; but on account of their warm blood they are inveterate swarmers. However, he has a decided strain of Carniolan blood in his bees.

O. H. Townsend prefers Carniolans.

DYSENTERY AMONG BEES.

The question was asked, "Can bees have dysentery without pollen?"

Mr. Aspinwall said, "Yes." There are two causes of dysentery—pollen and watery honey. Bees wintering on pure, ripe honey assimilate it nearly all. The hull of the pollen, or the water of thin honey, have to be avoided.

E. R. Root said that one great cause of dysentery is cold, which causes over-eating.

R. F. Holtermann said it is largely due to nervousness. You can close a hive in summer, shutting the bees in, and bring on dysentery through their worry at being shut in.

OFFICERS AND EXHIBITS.

The officers for the ensuing year are: President, W. Z. Hutchinson; Secretary-Treasurer, Elmore M. Hunt, of Bell Branch.

Morley Pettit was appointed to judge the exhibits, and awarded prizes as follows:

Best 10 pounds of Comb-Honey—E. D. Townsend.
Best 10 pounds of Extracted—Oscar Smith.
Best 10 pounds of Beeswax—W. H. Every.
Most Practical New Invention—Mr. Aspinwall's non-swarming hive.
Best pound Section of Honey—Oscar Smith.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

An Invitation to the National

This resolution was adopted, extending a cordial invitation to the National Bee-Keepers' Association to meet in Texas this year:

WHEREAS, The National Bee-Keepers' Association promises to hold its next annual convention in Texas; therefore, be it

Resolved, That the Nueces Valley Bee-Keepers' Association will welcome and appreciate the holding of such convention in our State, and we invite the several bee-keepers' associations in Texas to keep that event in view, and make the occasion one worthy of our great State.

The election of officers takes place at the next meeting, on the first Monday in April, having been postponed as a larger attendance of the members is then expected.

The Apiarist was adopted as the official organ of the Association.

Nueces Valley Bee-Keepers' Convention

An interesting meeting of this Association of Southwest Texas was held in regular session in Beeville, Feb. 5. Not a large number of the members were present, owing to unfavorable weather.

The veteran bee-keeper, Mr. L. Stachelhausen, was a welcome attendant, and the bee-keepers were indeed glad to have him among them.

Prof. Albert F. Conradi, State Entomologist, and in charge of the apicultural work at the Texas Experiment Station, addressed the convention upon some important matters connected with the work at the State Experimental Apiary. He offered some valuable suggestions, and asked the hearty co-operation of the bee-keepers over the State by offering suggestions as to the most profitable line of experiments that are desired. He also stated that the money set apart for this work was limited, and that for this reason not all such experiments could likely be carried on in one season.

Mr. Conradi asked for the appointment of a committee, by the Association, to outline such experiments as they would like to have carried out at the experimental apiary. This committee are: J. W. Taylor, Will Atchley, C. A. Butts, G. W. Hufstedler, and W. H. Laws.

Prices on honey cans were discussed, and a purchasing committee to confer with can dealers was appointed, as follows: Will Atchley, J. W. Taylor, and W. C. Nutt.

Dr. C. S. Phillips offered suggestions as to making exhibits at different places in the State.

Attend Bee-Keepers' Conventions

Conventions of bee-keepers are good things, and should be more largely attended by our bee-keepers. If we take into consideration the large number of bee-men who keep bees—and most of them keeping them for a livelihood—and then look at the small number generally in attendance at local and district—yea, and even the State and National—meetings, it makes one wonder *why* it is that not more attend such gatherings.

I have always said, "Attend the bee-keepers' conventions. They are of the utmost importance, for much is learned at such meetings that can not be obtained elsewhere." The more experienced and older members of the the craft are thoroughly familiar with the changes that are brought about in a man who attends such conventions. Take a man who stays at home, who has his own notions, his own views about things; he is generally down in "a rut"—(sometimes quite a narrow one). His views and notions border on that of narrow-mindedness. In his mind *his* apiary is the only one, *his* methods are better, and *his* ideas are only worth considering. For just such persons the bee-keepers' conventions are a good place. By rubbing up against some of the better bee-keepers much of this is worn off—the otherwise square corners soon round off—and a change is brought about that makes a better bee-man—better for himself and for the others of the craft. Instead of being a "dread" to his fellowmen—for such these men often are, who will dump their crops on the market and cause the "slump" that so much talk is made about, besides doing the many things not quite in accord with the better ideas of the older members—such bee-keepers soon "learn something at the convention that they had never dreamed about."

For weeks afterward, after that convention, the brain will fairly buzz as "the many things that were talked about at the meeting" are turned over and considered and thought about. "Why, Smith said so and so. Jones told us about such and such. Then there was Brown who gave one of the best talks I ever heard on that subject. And *I* never knew what the 'Question-Box' meant. Why, I could have listened to them answering those questions all day. Then that big bee-man I roomed with—he could surely talk bees to perfection. He told me *how to keep bees, and how to make money out of them !*

"I know that I could do about as well if I would only study the subject like some of those fellows do that I met. I never could see the use of all these things—bee books, bee-papers, and such things as *bee-conventions*. Now I wouldn't take a hundred dollars for my trip and what I learned, and I am surely going to try to have the nicest apiary in this section, and make some money so I can have a 'say' at the next meeting.

"Yes, sir ; I am bound to attend next year's meeting, because what would be missed could not be paid in dollars and cents.

"Why, I had almost forgotten about our ride home on the train. There were eight of us, and how we did talk ! Even I could tell them something by this time, for I was not afraid any more—in fact, I couldn't keep quiet any longer. It was surely a surprise to me, when I explained my way of doing when I don't want any swarms, and they told me that was indeed the easiest and most practical way out. Of course, they had not tried it, but as it seemed so easy, and because I haven't had a swarm for six years, as I did not want too many bees to keep me out of the field, and I still got a whole lot of honey, they thought my idea worth trying, anyway. I surely was proud that I could give even some of those fellows they called 'big lights' a little light on a subject, which they seemed to think was the hardest problem for them to solve.

"Yes, I surely learned lots, and I'm going to make use of it, too, now. I can hardly wait until the proceedings come out in print.

"And then we had our picture taken, too. I am wondering how I will look among all those *real* bee-keepers—and I must hurry and become one of them as quick as I can."

Such are the thoughts of one who has returned from his first *bee*-meeting—yea, and from many more. He returns not only having learned something himself, and to become a better bee-keeper, but he has been instrumental in dropping a little hint here and there, perhaps, in his own rude way, that may lead to the development of some useful methods for which bee-keepers have longed.

Well do I remember my first bee keepers' convention. My experience was not very different from that just outlined. Everybody thought I could not be induced to say anything, and this was only confirmed by my dissenting when asked to have a say, or give *my* opinion. No, I did not say anything, but how much and what I heard! My head was crammed. Once more at home, and in the bee-yards, and how my head buzzed. All there was to do was *at least* to try some of those things I "learned at the bee-meeting." Although they seemed to be good, they were not exactly like mine. After a trial they were better—and better for me.

Next year I had to attend again; not only that, but (so I heard) one of the best papers that had been before the convention at any time was read by that young fellow who could not be induced to say a word the last year. Even in the discussions a part was taken. And how easy it was!

Attend the bee-keepers' conventions whenever it is practical for you to so, is my advice. It will be good for you. If you have been once you'll go again, for it does not take long for a person to find out that it is of much value to him.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

Very Old (?) English Bees!

Here is an amusing item from one of our English sisters in the British Bee Journal:

> This is my first season of bee-keeping: I had 30 pounds of section honey from one colony, and a large swarm from the other; my third consists of two lots of driven bees, secured from an old country-woman in the autumn. Her daughter-in-law told me that she did not think that her mother's bees would be worth having, as she was quite sure they were too old to gather honey! "Why," she said, "they must be nearly 30 years old! She has kept them in the same place ever since she had them, and I am quite sure they must be nearly worn out—poor things. Why, last year they hardly gathered any honey at all, so I don't think it much use your trying them." Surely, Devonshire bees are very long lived.—"Heather," Sidmouth.

A New England Sister Looks On

Dear Miss Wilson:—I have been absent from the Sisters' corner a long time, so long that you may have forgotten that I ever was there. However, I have kept that corner in sight all the time, and watched what the sisters were doing and saying. As a result of my observation I can see that women bee-keepers are doing more independent work than formerly; testing methods for themselves instead of depending entirely upon the experience of others.

I can assure them that I have learned some wonderful things about bees since I left my old home in New York State, nearly two years ago, when I came to New England to share Henry Alley's labors in queen-rearing. His work possesses a great fascination for me, as I watch each detail. I wish you could see him at work among the bees, with no protection except a large red-bandana handkerchief thrown over his head, under his hat, to protect the back of his neck. I really believe the bees get to know that bandana, and think it an immense flower, by the way they hover over it, but *seldom* under it.

I have watched this work from the time that an empty comb was given to a choice queen to fill with eggs till the beautiful golden queens were put into cages, and sent all over the world, ready to reproduce their kind in distant lands. The work looks easy and simple, and the results seem almost magic; but let me tell you, that it has taken 40 years out of the best part of a man's life to perfect that system. It all looks simple because Nature's methods have been studied, and her work is always simple. No artificial cell-cups are used, but the bees draw out the cells in a natural way. I know of no more beautiful sight than a row of those queen-cells, perfectly formed, just ready to hatch those golden queens.

I would like to tell the sisters the whole process, as it has unfolded before my observation, if they would care to hear about it. Should any of them visit New England, we would be glad to have them visit the "Bay State Apiary."

Mrs. Henry Alley,
Essex Co., Mass. (Formerly Mrs. C. A. Ball.)

Some Intemperate Bees

Sister J. W. Sagendorf, of Brookfield Center, Conn., sends the following clipping:

> It would seem that it is among the humble-bees that temperance reform is most needed. The temptation is offered in the shape of honey supplied by certain composite plants of the thistle and century tribes. Whether this honey is specially and naturally intoxicating, or only occasionally so, is an open question; but Mr. J. L. Williams tells us that when the bees partake of it, they imitate the maudlin human very closely, in that they roll on their backs, kick their legs in the air, and show the utter helpless state of the chronic inebriate. As in ether drinking, however, the intoxication is very brief in its effects; but, sad to relate, the bees return to the honey after recovery with renewed zest, although Mr. Williams relates that one bee which had been confined for a night in a botanical box with some of the special flowers, showed signs of remorse on being set free. Possibly a surfeit over night acted, as usual, in inducing a decided, if transitory, fit of virtue next morning.

Upon reading the foregoing some will be inclined to think that Mr. Williams has himself been partaking of something not to be classed strictly among "soft drinks," and so has been "seeing things." Yet there is probably foundation for all he has said, and no very active imagination was probably needed to see all he saw. When the craze for the Chapman honey-plant was on, we had quite a patch of it. It was not an uncommon thing to see a number of bees sitting on the blossoms in a sort of stupid condition, perhaps remaining in that way over night. It looks as if the nectar obtained from those plants brought on that condition, and although these were hive-bees no doubt bumble-bees might be served the same way. These groggy bees, when touched, would throw their hind legs in the air as if to ward off attack, and if far enough gone it is not impossible they might roll over on their backs.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Dampening Sections—Cutting Foundation.

Both the section-dampening plan and the foundation-cutting device, given by C. H. Harlan, on page 165, are likely to be splendid, *if you can only make them work.* As he makes them work it ought not to prove impossible to the rest of us. (Damp cellar for sections, and a saw-cut path for the end of the foundation-knife.)

Growing a Quick Wind-Break.

Anent Dr. Miller's answer about quick wind-breaks, on page 164, there's no doubt about cottonwood making the most growth; but seems to me young cottonwoods incline to grow too much like bare poles. For the first 5 years I kind o' guess one might do better. How would it do to set quite thickly poles 10 feet high of white willow or weeping willow? They take root and grow. I think soft maple will do the same thing if the ground is not too dry. Localities differ some as to which trees come to the front. Here wild cherry distances pretty much everything it grows beside. If one chose that, I think he would have to set rooted trees instead of poles. Doubtless cottonwoods could be branched out by cutting tops off—but don't they incline to *sulk* instead of growing their prettiest when you do that? Possibly I'm slandering the cottonwood, after all, from seeing it grow among other brush. If perfectly in the open, and in a windy place, its style might be O. K. Poplars which used to be very abundant and rapid of growth here are now nearly extinct from some microbic disease. And the disease will be likely to visit you all when it gets a good ready.

BEES MOVING EGGS OR LARVÆ.

If E. W. Diefendorf gets the cold facts which he calls upon three eminent Canadians to give, I surmise that they will turn out to be cases of queens being reared where no queen could have laid an egg in the cell—that is proof that bees moved *something*, and they *assumed* that it was eggs rather than larvæ. So far as the moving is concerned, bees are probably capable enough of moving either one. Apparently the crucial point is that larvæ stay where they are put, while eggs will not. Page 165.

CAUCASIAN BEES.

The findings of Rev. Robert B. McCain about Caucasians are to be noted. He finds them good. But Italians, in the important matter of storing surplus, are somewhat better. Well, to live up to their reputation as non-stingers, and do fairly good work at storing, is all they need to do to hold an important place in certain locations. More than that I guess we must not expect of them. Page 181.

CAUSES OF HONEY FLOW AND SUPPRESSION.

The mysterious part of the varied causes of honey-flow and suppression calls pretty loudly for investigation. That the percent of sugar in beets varies greatly—also mysteriously—and to a certain extent parallel with the variation of the honey-flow, is a choice item to work into our going-to-come solution. Many thanks to Mr. H. S. Philbrook for it. His observation is that thunder-showers with great electrical violence and small precipitation are very bad for the nectar-secretion, and also bad for beet sweetness. I think we seldom have just such conditions here. I believe our usual thunder-showery weather for the most part favors the nectar-secretion, except so far as the rain washes the secretion away. Of course, we wouldn't expect that form of thunder shower that clears up with a north wind and much colder weather to be favorable. Page 184.

TWO QUEENS IN A HIVE.

We see. Everything has to be challenged. And now the mother-and-daughter theory of two queens in one hive catches it. Always two sisters, one of them a poor one, is the new theory proposed. That is, I suppose, the poor one hasn't vim enough about her to bring on a fight, and not enough of the scent of fertility to provoke much attention of any kind from the real queen of the hive. Guess the new theory is not so absurd as some of the new things we hear. At worst, we can thank Mr. Philbrook for setting us to thinking. Page 184.

SULPHUR FOR BEE PARALYSIS.

To have a powder-gun loaded with sulphur, and shoot all the entrances semi-occasionally, as Mr. Philbrook suggests, is not costly, and need not take much time. In localities where bee-paralysis often amounts to something serious—well, the keeper would thus soon come to have an idea whether it was worth while or whether he was merely making a monkey of himself. Page 185.

Canadian Beedom

OUR TOIL DOTH SWEETEN OTHERS

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Relation of Ripeness of Honey to Granulation

Replying to an enquiry with reference to ripeness of honey to granulation, I have the following from Prof. Shutt:

MR. MORLEY PETTIT:—In normal, ripe honey it is claimed that the dextrose and levulose are present in approximately equal proportions. We have no Canadian data on this point. Of course, the runnings from honey that have granulated, either in the comb or subsequently, will contain an excess of levulose.

In well-ripened honey the water will be from, say 15.5 to 17.5 percent, and the dextrose and levulose together in the neighborhood of 80 percent.

Possibly honey more or less unripe will not granulate, owing to its larger proportion of water. Unfortunately, I can not find any statement as to this, and it is a matter which we have not yet investigated.

The proportion of water can be determined from the specific gravity, and if it could be shown that unripe honey with its larger percentage of water did not solidify, it might be possible to establish a relationship between specific gravity and granulation.

Yours truly, FRANK T. SHUTT, *Chemist.*

How to "Sample" a Town With Honey

At the Ontario Convention many good points on "sampling" a town with honey by a house-to-house canvass were given. The Canadian Grocer has the following item along the same line:

THE ART OF SAMPLING.

It is remarkable the results which will accrue by judicious sampling of a given district.

First and foremost, the store-keeper must be certain of his article. It should be the best of its kind—no second-grade goods. The giving of a poor article will kill trade, not make it. Second, it should be neatly and attractively gotten up. The first impression is the lasting one. Given an attractive sample, the recipient expects a good thing—the first move in the direction of success.

Third, do not fail to have the name, address, and price clearly upon it.

Suppose you try this with your confectionery. A good corner of the street at the busiest time of the day; a neat, tasty confection handed to the passer-by by an equally neat and well-dressed boy with a well-worded notice of the fact in your usual advertisement space in the local journal, and you will welcome the result. A successful candy-dealer in the United States has built up a large business in this way.

Streaky Granulation in Honey—Losing Its Honey Flavor

Amid the confusion of information regarding the honey-bee and its products, it is singular how little there is about the treatment of honey after it has been harvested. It is true that honey, extracted after being sealed over, should require no treatment at all beyond straining, but if the moisture has not been evaporated, and the honey sealed over, some treatment is necessary.

The method advocated by some, of using the extractor to empty the upper tier of frames in doubled hives so frequently that the bees are unable at any time to build it up completely, must of necessity compel the apiarist to remove some honey which is unsealed, and therefore unripe. Under such circumstances half or more of the extracted honey will remain perfectly liquid and the remainder will become granulated, and if it is then put in bottles the combination of the two honeys is anything but satisfactory to the purchaser. The explanation of this fact is, after all, simple enough. Honey is composed of dextrose and levulose in certain proportions, and water to the extent of about 25 percent; if the former predominates it granulates, and if the levulose it remains liquid. The only method by which this state of things can be avoided is by allowing the whole of the honey to remain on the hive until properly ripened, or keep the honey in a warm place (about 100 degrees) until the excessive moisture has been gotten rid of. This can be accomplished and the virgin delicacy not be impaired.

If honey is heated to the boiling point it will lose its flavor, but as stored by the bees it is seldom subjected to a temperature higher than 100 degrees, which is sufficient to evaporate the moisture from the crudest honey within a few days. A colony of bees will build, evaporate, and seal over a 30-pound super in a week to a fortnight in the height of the season, but it is possible that the bees assist in reducing the moisture by extracting the watery portion of the honey for brood-rearing and for their own use. The most exacting taste will not be able to discriminate between the granular and non-granular honey, but the expert can tell by the specific gravity whether it will eventually granulate satisfactorily. Nothing is more worthy of attention by bee-keepers than the placing of their product before the public in the best manner. To be able to improve, refine, and heighten its qualities is to earn the gratitude of all the fraternity.—Weekly Mail and Empire.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal,
or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Mice as Honey-Eaters

There seems a difference of opinion between Messrs. Doolittle and Hasty as to mice eating honey. Please tell us what you think about it. Illinois.

Answer.—If I may be allowed to paraphrase, I will say that a certain gentleman whom I hold in high esteem is usually accurate, but I am unreasonable enough to entertain some doubts whether he is perfectly sound on mouse diet.

I wish Mr. Hasty would try this experiment: In a place where mice are wont to congregate, let him place food in abundance, but nothing sweet except a *new* comb containing a little honey, none of it sealed, and none of the cells well filled, and then let him report to us whether the mice have torn down any of the cells to get at the honey, and whether they have torn down for mischief any of the cells that do not contain honey.

◆

An Injured Finger—Ripening Basswood Honey

1. Last November I got my finger hurt so it was inflamed. I worked a few days after this with the bees, and they stung my hands a great deal. Before long the finger commenced to fester. The doctor lanced it, and did so almost every other day for 40 days, as it seemed to be honey-combed through and through, and each lancing only opened a small pocket. By this time I got too weak to walk. The doctors then cut it off above the first joint, and still the infection continued, and it had to be lanced a good many times after this. I still have it done up, but the inflammation is about gone, and I think it is about well—only one little spot. Now the four finger joints seem to be larger and stiff next to the hand. By getting stung on this finger, or hand, will it be more apt to poison it again?

2. I am liable to have about 2 tons of basswood honey. How would it do to extract it a little green, put it into large barrels with one head out, and leave it in the honey-house to ripen? Do you think this would do about as well as to leave it on the hives? Iowa.

Answers.—1. I don't think the stings were the cause of the trouble, but in the condition of that hand irritation from any source whatever is to be avoided, and I would be to no little trouble to avoid stings on it. I don't like gloves at all, but in your case I think I should wear at least one glove when working with bees.

2. Don't try it. It will be very likely to result in a lot of honey not fit to put upon the market. Unless you have special facilities for ripening honey, such as no one in your climate is likely to have, don't extract honey till it is well ripened. You can easily spoil your market by one lot of unfit honey, and it will take years to overcome the harm.

◆

Wax-Worms and Combs—Extracted-Honey Retail Packages and for Storage

1. How early in spring will the wax-worm begin its destructive work on combs stored in the honey-house?

2. How can I keep the frames from being injured? Last year I hung some on racks in the light where I occasionally looked at them, but after catching one here and one there I soon had the comb broken up more or less.

3. What would you advise me to use to store extracted honey in? I strain it right from the extractor. Last fall I put it immediately in retail packages. This year I will probably get more honey. I expect to put some in retail packages (pound jars) as soon as extracted, to supply my local trade. I may also sell some in larger packages. Now, what should one have on hand in the extracting-house, where I store it, to facilitate the handling of say 1500 to 2000 pounds of honey? and would the method you give be all right for larger quantities?

4. Is it necessary that honey be kept in an air-tight receptacle?

5. Is tin objectionable as a retail package for storing? Pennsylvania.

Answers.—1. Something depends upon the character of the honey-house. It needs considerable warmth for the favorable development of the miscreants, and if your honey-house is a warm place you may expect them to flourish by the first of May. Otherwise not till the last of the month. In a cool cellar there will be little trouble before the combs are needed for swarms. Of course, if the weather is warm their work will be earlier than when there is a cool spring.

2. Keep the combs in a cool place, as in a cellar, till needed for swarms. Still better, as soon as colonies become strong put under each strong colony a story of combs to take care of. You may keep them almost anywhere if you look them over every 10 days, and when you find any signs of their work take Miss Wilson's plan, and with an oil-can squirt a little gasoline upon them.

3. Nothing is better than glass or stoneware. Sixty-pound tin cans would probably answer your purpose.

4. No; although too long exposure allows escape of aroma.

5. Not if the tin is of good quality.

◆

Italianizing Black Bees

1. On page 236 is a question about Italianizing black bees by giving them brood from Italian bees; but how about the mating of the queens—wouldn't they be mated from the black drones, and not be of pure blood?

2. If this would work all right, how early could this be done?

3. If early in the season will the bees rear drones to mate these queens? Iowa.

Answers.—1. As the mating of queens takes place outside the hive, a virgin reared from the best Italian stock is likely to meet a black drone so long as blacks are greatly in excess. But by breeding only from those which do succeed in being purely mated, and occasionally buying a pure queen if necessary, one may hope in time to work out black blood to a large extent. But it is by no means an easy thing to keep pure Italian stock so long as impure blood is within 2 miles of you.

2 and 3. Unless you are an expert you will be likely to fail in securing either good queens or drones much before the time when bees naturally begin to make preparations for swarming; and when you become an expert you are not likely to try it. If you want to take some steps to have Italian virgins meet only Italian drones, instead of trying to have them earlier in the spring than other drones, you might try to have them fly later in the day than black drones are flying, by keeping in the cellar colonies or nuclei with the proper virgins and drones, and bringing them out in the afternoon after black drones have ceased to fly. A little thin feed will start them to flying.

◆

Shallow Hives—Uniting Weak Colonies

1. I am making some new hives with shallow frames, 5⅜ inches. I intend to use 2 shallow supers for a brood-chamber, 8 or 10 frames in each.

2. Will shallow frames cause less drone-rearing if I use full sheets of worker foundation?

3. I have some big hives with 18 frames in the brood-chamber. Are they as good as 8 or 10 frame hives for extracted honey?

4. I have some weak colonies. Would I do better to unite them, making one out of two? Would I have to kill the queen in one before uniting? Wisconsin.

Answers.—1. The majority of bee-keepers seem to prefer the deeper frames, but there is more in the management than in the frames.

2. The depth of the frame will make no difference as to drone-rearing. With full sheets of worker-comb you ought to have little trouble with drones in either case.

3. You can probably get as much honey from one as the other. The smaller hives are more convenient to move; but that may not be important in your case. On the whole, while it may be well to use hives with 18 Langstroth frames, if you have them already on hand, until you find them preferable in your hands it may not be advisable to make more of them.

4. If each colony has a good queen it may be best to try to keep them separate. Neither should you judge of the value of a queen by what she does in a very weak colony. The best queen in the world will not do the best work with only a small number of bees. You might try the plan of putting a weak colony over a strong one, with a queen-excluder between. If you unite 2 colonies it is not necessary to kill one of the queens.

◆

Pure-Blood Italians—Rearing Queens

1. I purchased an untested queen last fall of 5-banded stock, and only the workers show 3 full yellow bands. Is she a full-blooded Italian queen?

2. Will a full-blooded Italian queen always produce yellow queens, or will some be black?

3. Say a queen of 5-banded stock would be mated with a black drone, what percent of Italian blood would her bees contain? and how many yellow bands will they have?

4. How many generations would it take, by having an Italian queen mated with a black drone every time, until there would be more black blood than Italian?

5. Would fresh-laid eggs be all right for rearing queens, by putting them in compressed cups without royal jelly? or must larvæ be hatched before being moved or used? Ohio.

Answers.—1. I don't know. It used to be the rule that if all the worker-bees showed 3 yellow bands the stock was counted pure Italian, and I suppose that is still the test; but since the evolution of 5-banded bees I'm not sure the rule will hold. Suppose we have 5-banders, and a virgin of that stock meets a hybrid drone. It is easy to conceive that the result might be 3-banded workers, with some 4-banded and some 5-banded, and yet there would be some black blood present. The possibility, if not the probability, is that your queen is not purely mated.

2. No; some of the purely-imported Italian queens are quite dark,

and the royal progeny of a pure Italian queen are likely to show no little variation in color. You can not judge by the looks of an Italian queen, but from her worker progeny.

3. If the mother is pure Italian, and the father pure black, there will be just half black blood in the queen or worker offspring, but the drones will be pure Italian. There will be no uniformity as to the number of bands on the workers; some of them may have 5, and some may have none.

4. I suppose you mean that you would each time use a pure black drone to mate with the cross already obtained. In that case, the first cross would be half black, and the second cross three-fourths black.

5. I don't suppose you would succeed by moving eggs. I don't remember hearing that any one ever did.

◆

Buying Bees in the Spring

1. When would you advise to buy bees?
2. What would you call a good colony?
3. What would you pay for a mixed colony, but good in every other way? NEBRASKA.

ANSWERS.—1. Rather late in spring, say about the beginning of fruit-bloom, is a very good time. The troubles resulting from wintering are likely to be over then, with nothing to hinder a prosperous career.

2. A colony that at that time has brood in 5 frames, Langstroth size (17⅝x9⅛), each frame being ¾ or more filled with brood, would be a fairly good colony; with 6 or 7 brood it would be a very good colony.

3. There is no rule about prices. They may be twice as much in one place as in another, varying from $4 or less to $8 or more.

◆

Ventilation Space Below Brood-Frames When Moving Bees

You are familiar with the Holtermann portico and screen for moving bees, but to attach such an apparatus to all our hives would destroy the interchangeability of extracting supers and brood-chambers, besides several other disadvantages. My idea is to use your deep bottom-boards—say 2½ inches deep instead of the usual 2 inches—then when necessary to move bees in *any* kind of weather, just pull out the false bottom and insert a screen-covered rim, say 12x19⅛, into the entrance, giving then a clustering space of at least 2 inches under the frames, and wire-cloth surface for ventilation about 10¼x17½—greater than the ventilating surface of the screen used with Holtermann's portico.

1. How deep do you think the bottom-board should be to be used as above?

2. As all the air must come in at the front of the entrance, and mostly *under* the screen, in the ½-inch space under the screen above the floor, will the ventilation be sufficient for the strongest colonies?

3. What do you think of the idea? Any improvements? IDAHO.

ANSWERS.—1. It seems to me 2½ would be enough, and possibly 2, but you'll have to wait and try it in red-hot weather before you can be sure.

2. Not sure about it, but it seems to me ¾ inch under the screen would be better, even at the expense of less clustering room between screen and bottom-bars.

3. If I had originated the idea I should say it was just the thing. Seeing it's your baby, I'll say you can't tell how it will work till you try it. How would it do to have the screen within ½ inch of the floor at the back end, and within 1 inch of the floor at the entrance? Not so easy to make a close fit, but it would put the bees at the back end more on a par with those at the front end as to chance for pure air. In fact, wouldn't less than ½ inch do at the back end if the air that reached that point was fresh? I think you'll see what I'm getting at, that if the space is the same throughout, and there's any suffering for lack of fresh air, the bees at the back end would be the ones to suffer most.

◆

Old Combs for Beeswax—Making Sections at Home—Changing Queens—Number of Comb-Honey Supers Per Colony—Equalizing Brood Among Colonies

1. Are old combs with dead bees in them fit for beeswax? If so, how is the best way to get it out of them? I have no extractor.

2. As the price of sections is very high, and section lumber very cheap in my neighborhood, do you think it would pay me to buy a machine to make sections?

3. I clip my queens and hive the swarms on the old stand. Would it do to change queens when they swarm, by giving them a queen-cell or a young queen just hatched? Would they store as much honey by changing the queen?

4. I run my apiary for comb honey, using the 8-frame dovetailed hive with T-supers. How many supers should I have for each hive?

5. On April 22, 1905, my colonies had 3 to 7 frames of brood each. Would it pay to take from and give to until each colony had the same amount of brood? IOWA.

ANSWERS.—1. Yes, a large part of the wax of commerce is obtained from hives in which bees died in winter. One way to get the wax out of a small quantity of combs is to use a dripping-pan. Split open one corner. Put the pan in the oven of a cook-stove, the split end projecting outside the oven-door, and the diagonally opposite corner of the pan slightly raised. Set any vessel containing a little water under the outer corner to catch the dripping wax. But this will not get the wax out as clean as a wax-press.

2. No, there is probably not a man in the country that makes sections only for his own use. A complete outfit of section machinery would cost several thousand dollars, probably.

3. No, when a swarm is hived it doesn't take a great deal to make the bees desert their new habitation, and if their old queen were taken away they would not be satisfied with a cell or a virgin, but would return to their old home.

4. That depends. Decide as nearly as you can the average number of supers your colonies will *fill* in the *very best* season. That's the number you need, together with one extra super for each hive. For instance, if in the very best season the number of filled supers averages 5 for each hive, then you should have 6 ready. You understand that it will be a rare thing for you to need so many, but an old saw runs, "It's better to be ready and not go than to go and not be ready;" and the extra supers not needed will be all right for another year.

5. It's not a bad plan. But let me give you a hint: Don't take from the strongest and give to the weakest, but give to those not quite strong enough. Take a frame from those having 6 or 7 frames, reducing them to 5; that is, from a colony having 6 frames you will take one frame, and from a colony having 7 frames you will take 2 frames of brood. Now give one or two frames to each colony having only 4 frames. When these are brought up, then give 2 or 3 frames to each colony having only 3.

◆

Several Eggs in a Cell—Preventing Bees Hanging Out—Keeping Queens

1. What causes a queen to lay a number of eggs in each cell? This was done by the queen in the colony that died, and they had mostly drone-comb.

2. What can be done to stop bees from hanging out?

3. What is the best way to keep queens taken from colonies? NEBRASKA.

ANSWERS.—1. I don't know. It is a very rare thing; and generally a queen that does that sort of thing is no good; but I have known a queen to do it for a time, and then behave herself with entire propriety during the rest of her life. It is, however, not such a rare thing to find more than one egg in a cell; but in nearly every case such eggs are not laid by a queen, but by laying workers. Unless you know positively that a queen laid the eggs in the case you mention, I should suspect laying workers.

2. Give them abundance of room, shade and ventilation. Sometimes, however, they are hanging out because there is nothing to be done in the field, and in that case they are not to blame for hanging out.

3. In a nucleus. For a few days, however, they may be kept caged in a colony that has its own queen, and some good-natured bees are generally willing to feed them. To make entirely sure against starvation, a provisioned queen-cage may be used.

◆

Stretching Comb Foundation—Miller Frame

1. How do you make 7¾-inch wide brood foundation reach to the saw-kerf in the top of the frame and between the two pieces of the bottom-bar? The total distance 8¼.

2. Where can I get the Miller frame? I have been using the Hoffman, but don't like it any better than you do. KANSAS.

ANSWERS.—1. You mustn't ask such hard questions. I don't know of any way to make comb foundation longer except by stretching it, and that isn't a good way. My foundation is made half an inch more than the space between the top and the bottom-bars; that makes the foundation 8½ inches. You probably have foundation 7¾, and want to know how you can use it. I'll tell you: Cut some of the sheets into strips ¾ of an inch wide. Put a full sheet into the upper part of the frame, and a ¾ strip into the lower part. It may not be easy to make an exact fit where the two parts come together, but it doesn't matter if they are ⅛ or ¼ of an inch apart. The bees will make it all right.

2. From the G. B. Lewis Co., Watertown, Wis., and probably any manufacturer will make them to order.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

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◆

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Reports and Experiences

White Clover All Right.

I can not do without the American Bee Journal while I keep bees. I have 60 colonies in good condition. They had a cleansing flight to-day—the first since March 8. We have had very stormy, wintry weather the past two weeks. The prospects for honey are favorable so far, as the white clover—our main honey-plant—is all right.

L. W. Elmore.

Fairfield, Iowa, March 26.

Bees Wintered Well So Far.

Bees are wintering well so far. I hope we will have a good year for honey. Last year we had only a quarter of a crop. I put 102 colonies in the cellar last fall. I am now looking for warmer weather very soon so as to put them out.

C. Eggenberger.

Theilman, Minn., March 26.

Honey Scarce Last Season.

Last fall I packed 6 colonies of bees snug and tight for winter. The honey was scarce last season, so I fed 80 pounds of sugar and then they were in fair condition to winter, excepting one colony. I lost this one, doubled up two this spring, and I now have 4 good colonies. I have had bees 2 years and have gotten only 20 pounds of honey. This does not discourage me, as many have lost all their bees this winter.

Cecil H. Neuman.

Wymore, Neb., March 5.

Season Earlier Than Usual.

Our season is earlier than usual. The fruit-trees are just in bloom. Bees are in fine condition, and swarming will soon be the order of the day.

J. W. K. Shaw & Co.

Loreauville, La., March 14.

Not Expecting a Great Crop.

We can report a very fine rain, 4 or 5 inches, just now. If we get as much toward the last of March, we shall get some honey this season, unless it turns very dry from now until that rain of the last of March. But even without it, a rain of 2 inches in the middle of April would make a honey-yield. But I have not known 2 honey crops in succession since I have been in California. The prospects hang by a thread, as it were.

C. W. Dayton.

Chatsworth, Calif., Feb. 15.

Keeping Bees on Shares.

I have been in the bee-business for 3 years. A man asked permission 3 years ago to set his bees on my place on shares. I was to get half the swarms and half the honey, but had to furnish my own hives. We had at that time 26 colonies, but did not have very good luck that year, as the man had some enemies that poisoned the bees. It must have been paris-green that was used, as handfuls could be scooped up in front of each hive. In the fall when we divided I got 8 colonies, but little or no honey. My trouble in keeping bees is, they want to swarm too much, and the hives are so high in price, although I got mine second-hand for $2.25 for the hive and 2 supers.

The first prime swarms I hive, but when the swarms get smaller I double them up with a weak and late swarm. Of course there is some trouble at first, but they soon quiet down. I find the dead queen in front of the hive in the morning, which I expect. I have had some swarms come out with 2 and 3 queens, and have had swarms come out together, and they have done well.

Last year I cut out all the queen-cells, which I think I ought not to have done, for I soon found I had a good many queenless colonies, which dwindled away and died. I gave them combs of brood, thinking they would rear a queen, but it did not help.

I have now 35 colonies in good condition. Last year they averaged 2 supers of honey to the hive. I am a farmer by occupation, and it takes most of my time to attend to other business, but I love to work with bees. I never put on veil or gloves, but go right amongst the bees. My family are also good bee-keepers.

Noack Soderlund.

Tudor, Calif., Feb. 15.

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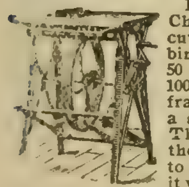

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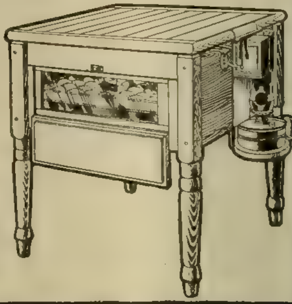

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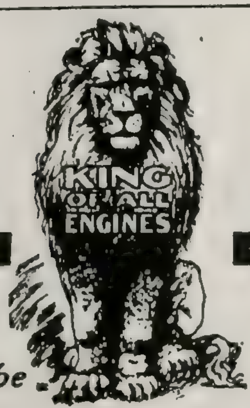

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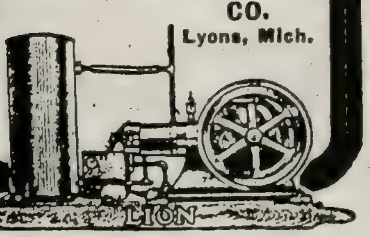

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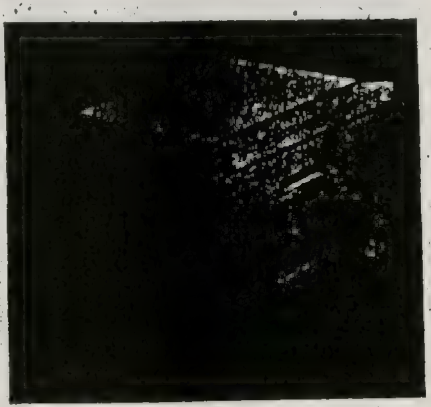

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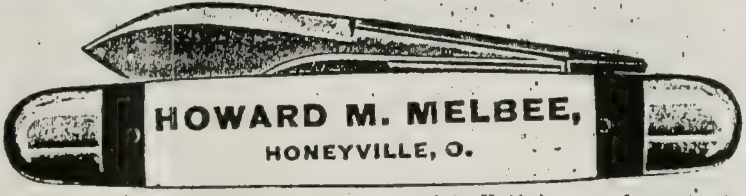
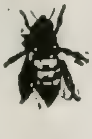


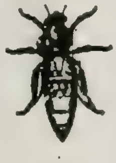
(This cut is the full size of the Knife.)

NOVELTY POCKET-KNIFE

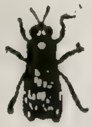
(Name and Address on one side—Three Bees on the other side.)



Worker



Queen



Drone

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The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

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⅗ size

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Bee-Keeper's Guide, or, Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages, 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

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Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**
For prices, refer to my catalog, page 29.

At Root's Factory Prices

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Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

Chicago, March 7—Choice white comb honey is not plentiful, and it sells upon arrival at 15c per pound Other grades of comb are not in demand and sell at uncertain prices of 10@14c per pound. Choice white extracted, 6½@7½c; amber grades, 5½@6½c. Beeswax, 30c per pound.
R. A. Burnett & Co.

Toledo, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
Griggs Bros.

Indianapolis, March 24—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, March 20—The call for honey is falling off, and while the supply is not abundant, yet it equals the demand. We quote fancy white, 16@17c; amber, 13@14c. Extracted, white clover, 7@8c; amber, 6@7c. Beeswax, 28c.

We are producers of honey and do not handle on commission.
Wm. A. Selser.

New York, March 19.—Demand for comb honey is fair, especially for the better grades, and fancy white is selling at from 14@15c; No. 1, 13c; light amber, 11@12c; no more demand for dark comb honey. Extracted is in good demand, mostly California, at unchanged prices. Beeswax is firm at from 29@31c, according to quality.
Hildreth & Segelken.

Cincinnati, March 8.—The demand for comb honey has brightened considerably since we last reported; in all probability, by the close of April, the market will be bare of comb honey. This will be encouraging to the bee-keeper. Nevertheless, to advance the price is out of the question; therefore, we continue to quote fancy white comb honey at 14@15c. The demand for extracted honey does not come up to our expectations; we quote amber at from 5¼@6½c, according to the quality; fancy white, in 60-lb. cans, 8c. Choice bright, yellow beeswax, 30c.
The Fred W. Muth Co.

Denver, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
The Colo. Honey-Producers' Assn.

Kansas City, March 16—The supply of comb honey is not very large. Demand is light, best 24 section white selling at 3.25 per case, amber at 25@50c per case less. Extracted, white, 6½c per pound; amber, 6c. Beeswax, 25@30c. We look for an increased demand in the near future.
C. C. Clemons & Co.

Cincinnati, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. Weber.

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Yours truly, W. J. Hill.

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Gentlemen:—Your hives fit perfectly and your sections are simply superb. Robt. Wilson.

G. B. Lewis Co., Watertown, Wis. Deerfield, Iowa.
Gentlemen:—I want to say that I consider your make of sections the nearest perfect of any I have ever had. I have folded packages of 500 without breaking one, and I cannot say that of others I have used. Yours truly,
George Brown.

G. B. Lewis Co., Watertown, Wis. Grand View, Iowa.
Gentlemen:—I have received those sections in good shape and I am well pleased with same. They are all right in every way. I shall recommend your bee-supplies to other bee-keepers. I think you make better goods than any other firm in the world. Accept my thanks.
Yours truly, Geo. B. McDaniels.

G. B. Lewis Co., Watertown, Wis. Kenton, Ohio.
Gentlemen:—The goods are simply fine in every respect. We have compared a few of the No. 1 sections bought of another firm which we carried over from last season, with your No. 2, and find that the No. 2 are superior.
Yours truly, Norris & Anspach.

G. B. Lewis Co., Watertown, Wis. Centralia, Kan.
Gentlemen:—Everybody wants Lewis sections.
Yours truly, A. W. Swan.

G. B. LEWIS CO., Watertown, Wis.

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EVERYWHERE

AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., APRIL 12, 1906 No. 15

APIARY OF ORPHEUS DILLER IN WINTER.

REV. A. R. SEAMAN AND SON.

(See page 322)

QUADRUPLE CHAFF-HIVE APIARY OF C. N. SEWARD.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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3d.—To enforce laws against the adulteration of honey.

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Contents of this Number

Illustrations—

Apiary of Orpheus Diller in Winter.. .....1st Page
Byer (J. L.) and Family.............................. 327
Quadruple Chaff Hive Apiary of C. N. Seward..............................1st Page
Seaman (Rev. A. R.) and Son...............1st Page

Editorial Notes and Comments—

Forecasting the Weather a Month Ahead...... 321
Honey Prices and Quantities 321
How to Increase the Prices of Honey....... .. 321
More Bee-Inspectors for Ontario............... 321
Something About Cuban Bee-Keeping..... 322

Miscellaneous News Items—

Apiary of Orpheus Diller......................... 322
Dzierzon, Dr. 322
Notes from the National.................. 322
Quadruple Chaff-Hive Apiary...... 322
Seaman (Rev. A. R.) and Son.................... 322

Contributed Special Articles—

How to Breed the Bee of the Futnre............ 324
Price of "Quality" Honey Not High Enough.. 325
Something About Prevention of Swarming.... 323
When Young Bees Became Field-Bees.......... 324

Southern Beedom—

Order of the Brood-Nest............ 325
Prospects for the Season of 1906................ 325
Southern Bee-Keepers Awakening.............. 325
Texas Horsemint in Georgia...................... 325

Canadian Beedom—

Always Preparing in Bee-Work.................. 327
Byer (J. L.) and Family.... 327
"Had It In for Him"........................ 326
Hershiser Bottom-Board......... 326
Propolized Rags as Smoker-Fuel................ 327
To Make Us Think... 327
Two "Notes" from The Globe................. 327

Our Sister Bee-Keepers—

Keeping Dry Combs from Moths With Gasoline....... 328
No Winter Losses..................................... 328
Turpentine to Get Rid of Ants.................... 328

Mr. Hasty's Afterthoughts—

Buying, Selling, and Eating Honey............ 328
Helpful Bees—Milkweed Pollen................ 328
Honey-Yielding Plants of Texas................ 328
Control of Swarming? 328
Crowding Out the Queen 328

Dr. Miller's Question-Box—

"Appendix" to "Forty Years"................... 329
Comb Honey and Excluders 329
Controlling Swarming and Increase............ 329
Doubtless a Case of Bee-Diarrhea.............. 329
Eight-Frame and 10-Frame Hives.............. 330
Hives in Long Rows and Sunflower Shade..... 329
Increasing a Nucleus 329
Natural Swarming... 330
Placing a Doolittle Feeder 329
Starting With Bees.................................. 329
Sweet Clover............................ 329
Tar-Paper for Hive-Covering..................... 329

Reports and Experiences—

Bees Wintered Fine Outdoors..................... 331
Land of Potatoes—and Some Honey............ 331
More Than Enough Rain.. 331
Outdoor Bees Have Suffered...................... 331
Outdoor Bees Wintered Fine 331
Wintered Well—Late Spring..................... 331
Winter Loss Nearly One-Fourth........... 331

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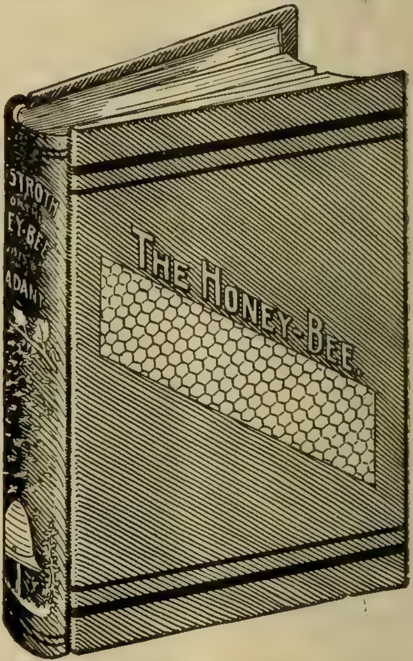

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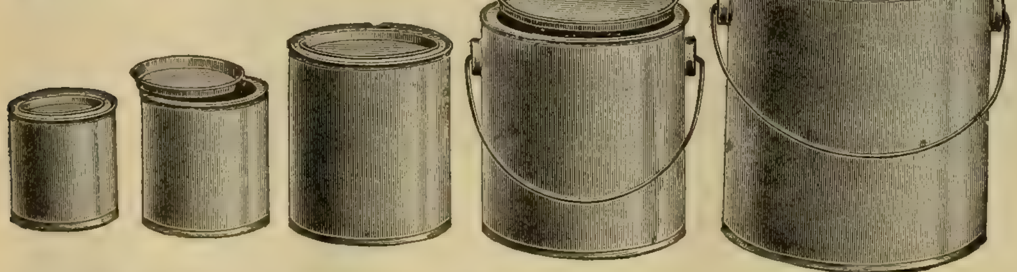

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GEORGE W. YORK, Editor | CHICAGO, ILL., APRIL 12, 1906 | Vol. XLVI—No. 15

Editorial Notes and Comments

OUR TOIL DOTH SWEETEN OTHERS

Honey Prices and Quantities

> Have you ever thought of it, that if you can get $10 for 100 pounds of honey it is nearly double the price per pound net that you receive if you sell 150 for $10? First, it does not cost as much labor on the part of the bees and the bee-keeper to produce the 100 pounds. It does not cost as much for packages to contain it. The freight is less on it; and, finally, it does not go so far toward overstocking the market as would 150 pounds. Figure it out yourself and see if I am not nearly right.

Thus says Editor S. E. Miller in the Progressive Bee-Keeper. Not every one would accept his opinion off-hand, but the more those who object to it figure upon it, the more likely they will be to think it not far out of the way. Putting the idea into another form, a rise of 50 percent in the price per pound is equivalent to doubling the net profit.

As a practical matter, however, most bee-keepers would be inclined to discount the net result to some extent, saying they do not care to lessen either their own labor or that of the bees, if thereby the gross intake may be increased. Yet when the square question is put before the bee-keeper, "Which do you prefer, to get $10 for 100 pounds or $10 for 150 pounds?" he will not hesitate to say he prefers the first part of the proposition. The question then arises as to what can be done, if anything, thus to reduce the amount of outlay without reducing the income. But that's another story.

How to Increase Prices of Honey

Most bee-keepers are probably producing honey for the money that is in it, and have a vital interest in the question as to how the profits may be increased. Anything that can be done to reduce expenses means to just that extent an increase of profits. Increase of knowledge, so as to use better plans and secure larger crops means increase of profit, at least on the part of the individual bee-keeper. But the thing that appeals most directly to the bee-keeper in general as the great thing to be desired is a higher price for his product.

How is that desideratum to be attained? How are better prices for other commodities attained? In some cases, and perhaps to a larger extent than generally supposed, by limiting the output. Manufactories are shut down, no matter at what inconvenience to the thousands thrown out of employment, when the state of the market seems to require it. Where it is a matter of crops, part of the crop is deliberately destroyed that the price may be upheld on the remainder. But a right-minded person revolts at such a proceeding. If it were followed in all departments, it would merely mean a scarcity in all departments, with want and suffering. Besides, it is not at all certain that suppressing half the crop of honey would double the price of the remainder. Indeed, it seems quite certain that it would not, for in a year when there is less than half a crop there is very little elevation of price.

Following the lead of dealers in other commodities, a better way, and a way entirely free from objection, is to increase demand, using all legitimate means, but chiefly by means of printed matter. Publicity, advertising—that's the thing. Advertising, however, is by no means limited to that which goes through the printer's hands. The man who discourses to his neighbor upon the merits of honey is doing effective advertising, although he may advertise more largely by saying the same thing through the local press. The man who, Alexander-like, gives away a pound of honey to each of a number of prospective customers, is doing advertising of a very effective kind.

After all, whatever else may be done in a local way, thoughtful minds appear to view as the one thing desirable above all others some general scheme of advertising on an extensive scale that shall cover a very large field, if not the whole field, which shall help in a permanent way to place honey as an article of daily consumption alike upon the table of the rich and the poor.

How this may be brought about, or indeed whether it ever may be brought about, is a serious question.

Forecasting the Weather a Month Ahead

> Long distance weather forecasts whereby the public may be informed of meteorological conditions for the month to come may be established by the Weather Bureau soon. Willis S. Moore, chief of the Bureau, made the announcement Tuesday night at a banquet of the Maritime Association in New York.
>
> At present forecasts are made only for 48 hours. The Bureau has been studying the possibilities of long-range forecasts for some time, and the system is nearly completed for the work.

The foregoing, from the Chicago Record-Herald, seems to hold possibilities of interest to bee-keepers as well as others. To make a jump all at once from a forecast of two days to that of a month looks just a little like romance, but we shall see what we shall see. To mention just a single example, many a man who cellars his bees would give no small sum for a fair guess at the weather two weeks ahead at the time when he is trying to decide whether the bees should go into the cellar or not; and still more would he like to know the probabilities about the time of taking out in the spring.

More Bee-Inspectors for Ontario

We have received the following, which will be of special interest to our Canadian readers:

> More efficient inspection of apiaries, by the appointment of additional inspectors, is a probability. At the last annual meeting of the Ontario Bee-Keepers' Association, the Minister of Agriculture, Hon. Mr. Monteith, was asked to increase the number from one to three. At present the one is appointed by the Association, paid by the Department of Agriculture, and between the two masters is rather hindered in his work.
>
> Hon. Mr. Monteith called in the officers of the Association to discuss the matter fully, and this morning they saw him. Those present were Messrs. H. G. Sibbald, President of the Association; Wm. Couse, Secretary; J. B. Hall, F. A. Gemmill and J. D. Evans—all prominent and experienced apiarists. The advantages to the industry

and to the public from better inspection were urged upon the Minister, who is thoroughly in accord with the Association on that point.

As a result, it is likely that legislation will be enacted this session to provide for three, or perhaps more, inspectors. These will be entirely under the control of the Department. The members of the deputation went away quite satisfied with what is to be done. One of them remarked that the present inspector had been appointed on the suggestion of the Association years ago, and that it has taken the Association all the time ever since to secure recognition of the need for more.

This is right in line, we believe, with the action taken at the last meeting of the Ontario Bee-Keepers' Association.

Something About Cuban Bee-Keeping

A document printed in the Spanish language (all but the 30 pictures), entitled, La Apicultura en Cuba, has been received at this office. Although the Spanish language is "a sealed book" in this "locality," yet it is not a hard matter to guess from the ear-marks that it is a circular issued by the government of our young sister republic, and written by E. W. Halstead.

Fortunately, by the courtesy of Mr. Halstead, a copy of the Havana Post—the only English daily published on the island—has also been received, containing a very interesting article entitled, "Raising Bees Here in Cuba," and comparison of the two leaves little doubt that the long newspaper article is a literal translation of the bulletin. Some excerpts can not fail to be of interest to readers of this Journal:

> Black bees were introduced from Florida in 1774; Italians only recently.
>
> The latest available statistics (1902) give over 82,000 colonies of bees on the island; this number has probably been largely increased in the last three years. The exports of honey and wax in 1904 were valued at more than $1,100,000.
>
> More than 80 percent of the bees in Cuba are in log-gums or in corchas. Corchas are simply rough boxes about a foot square and 4 feet long, without ends. The honey is gathered by cutting it out in chunks from the open ends of the boxes. Sometimes the comb is built out so that it protrudes from the box and is completely in the open air.
>
> The best time to transfer is just at the beginning of a good honey-flow. In the vicinity of Santiago de las Vegas, October is a good month, for the combs are almost empty of honey, and do not break as easily as when full, and, as the honey-flow comes on at this time, the colonies build up quickly and are soon ready to have the supers put in.
>
> Where wax is desired it is usual to space the frames wide apart so that only 7 or 8 frames are put in a 10-frame, and only 5 or 6 in an 8-frame hive.
>
> When uncapping these combs before extracting, they are shaved down to the regular thickness, so that a great deal more wax is obtained than when the regular number of frames is put in the hive.

Miscellaneous News Items

Dr. Dzierzon—the "grand old man" of German bee-dom—Die Biene, a German bee-paper, reports was 95 years old Jan. 16, 1906. For the past 15 months the weakness of his legs has compelled him to keep to his bed. He tried to get up alone once, and fell to the floor, but without injuring himself. His mind is in better condition than his body, and he regrets to see the void made around him by the death of the friends of his younger days.

Rev. A. R. Seaman and Son are bee-keepers in South Connellsville, Pa. The son is the assistant. Mr. Seaman made us a brief call when in Chicago, and tells about it and some other experiences in the following:

> When I left Pennsylvania I had business in Ohio, Indiana and Michigan, and I thought, for a "tid-bit," that I would treat myself to a touch of Chicago, just to say that I had seen the place; for I had no other business there except to see, for the first time, the Editor of the American Bee Journal. A long ways before reaching Chicago, on the Wabash line, Illinois is low and swampy, where little lakes and marshes are so extensively mixed among the beautiful prairie homes that one wonders whether to call it landscape or waterscape, for one can step out almost anywhere and gather water-lilies in their season. When the train-men called out "Chicago," I checked my suit-case in the package-office, but kept my umbrella, as every discreet (?) countryman will do in the city with which to battle his way through the crowd! I then looked up the office of the American Bee Journal.
>
> Now, there are plenty of names, no doubt, of the streets at their corners in Chicago, but I didn't happen to see one while I was there; but they should be prominent at points where strangers are likely to arrive, and the law should require it. And I saw but very few numbers along the streets, where every place of business has a right to be numbered and named conspicuously.
>
> But I saw that I was getting there, for the few numbers visible had an increasing ratio. Finally, I met a stranger in the city of whom I asked, as he stood watching, waiting and wondering, "Kind sir, can you tell me where this city keeps the names of its streets and the numbers of its buildings displayed for the benefit of the public?"
>
> "Indeed, I can not," he answered, "for that is just what I am trying to find myself, for I am also a stranger in these parts."
>
> Finally I saw "334" over an entrance to a sky-scraper, and I looked all over the front of that great building to find the name that my longing heart was aching to see; but "nary" a mark did I discover. This rigid economy in names and numbers in Chicago may have the tendency to give the cabmen, and guides and guzzlers a better chance for their respective business; but enough names and numbers would be better than placards of caution.
>
> Then I went into a cigar stand and said, "The Directory gives me 334 Dearborn Street as the place where the American Bee Journal is published, can it be found in this building?"
>
> "Just step back in the hall to the elevator man and he will show you up to it."
>
> I did so, and Mr. York received me kindly, in the upper regions. I didn't hang on to consume his valuable time, and make him glad to see me, and more glad to get rid of me; for the first moment with the hand-touch were the golden points that I went to get, and after I got them, and the exchange of a few social words, I was ready to say "Good-bye."
>
> I took a circuitous route through the city on my return without any further regard to street, names and numbers, but counted the squares this way and that as I passed, and finally fetched around to the Dearborn depot without asking a question of anybody. It was a mere glimpse of the city taken in my hurry to leave it on the first train that should go my way; and I was soon on my return trip among the little lakes and water-lilies, without staying to see the best and the worst things in Chicago, or its many good people. A. R. Seaman.

We hope Mr. Seaman will tell us about his bee-keeping experience, some time.

Notes from the National.—General Manager France reports that $469.50 in annual dues have been received since the last report was sent to the printer. This shows that funds are still coming in to carry on the good work of the National. Mr. France also added the following:

> As soon as the cold weather lets up there will be trouble by bees spotting clothes, which should be avoided by the bee-keeper. Then poisonous spraying will be next. This, also, can largely be avoided by the local bee-keeper.
>
> There are many inquiries from those who wish to buy bees and also honey. This latter will show there is no danger of old honey being in the market when the 1906 crop is ready.
>
> The following letter is from an Illinois mayor, replying to my inquiry as to a petition being circulated in his city for the purpose of prohibiting the keeping of bees in that city:
>
> Mr. N. E. France, Platteville, Wis.—
>
> *Dear Sir:*—Replying to your favor of the 14th inst., I will say that the petition presented to the Council for the passage of an ordinance prohibiting the keeping of bees in the city limits was ridiculed by the councilmen, and no action was taken towards passing such an ordinance. The request is so ridiculous that I do not think it necessary for any one to be alarmed at such an ordinance being passed. The Council realizes that the petition was circulated by an enemy of some party who was keeping bees.
>
> Thanking you for the interest you take in this matter, I am,
>
> Yours truly, Mayor.
>
> I have thanked the mayor for his reply and for the wise action of that Council. N. E. France.

Apiary of Orpheus Diller.—When sending the picture shown on the first page, Orpheus Diller, of York Springs, Pa., wrote thus:

> I enclose a picture of my 30 colonies of bees kept in a town garden. I always take pleasure in seeing pictures of other apiaries in the American Bee Journal. I have been interested in bees for some time, but being a merchant have little time to devote to them. The first two in the front row, covered with snow, are Danzenbaker hives with outer cases made of store-box boards. The third hive is a Danzenbaker hive also, with a Mrs. Cotton hive used as a case over it.
>
> Orpheus Diller.

Quadruple Chaff-Hive Apiary of C. N. Seward, of Silver Creek, Nebr., is pictured on the first page. This is what its owner says of it:

> I send a photograph of my apiary which contains 116 colonies of bees, all in chaff hives, most of them being quadruple tenement hives. In winter the 4 colonies cluster near the center of the quadruple hive; they are able to retain considerable of the animal heat, which, I think, is a great advantage, both in good wintering and protecting the early brood against the changes of the weather.
>
> If you will notice you will see the "Boss" (my 2-year-old granddaughter) sitting on one of the hives.
>
> In the fall of 1904 I had 109 colonies, and in the spring of 1905

there was one queenless and two with drone-laying queens, and 106 good, strong colonies. I am told it was a hard winter on bees in Nebraska.

I use the standard Hoffman frame wired and filled with full sheets of foundation. I make my own foundation on a 10-inch mill, which pays me big.

I think the 10-frame hive is small enough. I keep my queens clipped, and work for both comb and extracted honey.

I think I shipped the first bees to this part of the State (Polk Co., Nebr.) from Rock Island Co., Ill., in May, 1877. If I am not mistaken, I bought my first bees in 1862 or 1863, and we have had bees in the family ever since. So I commenced my bee-keeping 43 or 44 years ago.
C. N. SEWARD.

* * *

Mr. W. J. Davis, 1st, of Youngsville, Pa., could write a book on "Sixty Years Among the Bees," but he probably will not undertake it. He has also read all the volumes of the American Bee Journal, and when renewing his subscription for this year, wrote thus:

> I will not say as some of your subscribers, that "I *could not* get along without the Journal," for, after 60 years' experience in handling bees and reading 45 volumes of your paper, I think I *could*. But I do not think I *will*, as it is worth more than it costs, to me.
> W. J. DAVIS, 1ST.

We value very highly such a generous testimonial, that comes entirely unsolicited. It is a great encouragement to us. And yet, we also like to get honest, sensible criticisms and suggestions for the improvement of the American Bee Journal, for we desire to make it increasingly valuable to its readers. Our interests are mutual, and the larger success of the readers should result in greater success for the Bee Journal, and *vice versa*.

Contributed Special Articles

Something About Prevention of Swarming —When Young Bees Become Field-Bees

BY L. STACHELHAUSEN.

IN the Western Bee Journal for 1905, page 139, Adrian Getaz published an article on "Prevention of Swarming," in which he recommends the caging of the queen for this purpose. This is successful if the queen is not released until the colony has been at least 4 days without unsealed brood. To explain this Mr. Getaz said:

"Exactly how it works, I could not tell positively. I think it is in this way: During these 4 days or more without unsealed brood, the young bees, having no brood to feed, take to the field, and become actually field-bees."

In an article in the same paper, page 181, I explained why this is not correct, and gave another more probable and satisfactory answer. Now Mr. Getaz, in the American Bee Journal, page 72, says I had made two "errors" in criticising his guesses.

I said that young bees are the nourishing bees, prepare the larval food, and can't do any kind of field-work before they are at least 12 days old. Mr. Getaz says this is an error, and continues:

"Experiments had been made where bees only 7, 5 and in one case only 4 days old, have brought in nectar and pollen."

I have read a number of bee-papers during more than 40 years, and I do not remember that any reliable man had such an experience as Mr. Getaz says. Sometimes somebody not used to close, scientific observation may have published a similar assertion, but it was clearly seen where he had made the mistake.

The question itself is not difficult to settle, if we introduce an Italian queen to a black colony, or if we give to a black colony a comb with eggs laid by an Italian queen, and observe closely afterwards. I did this years ago, many times, and found the young bees have a play-spell when about 8 days old, but I have not seen a single case where a young bee had gathered pollen, nectar or water before she was 15 days old. It is true that at some times and under some circumstances the young bees leave the hive for a play-spell when only 5 or 4 days old, but this has no bearing at all on our question. The question is, At what age do bees gather pollen or nectar, and so become actual field-bees? and can they, under pressing circumstances, become field-bees sooner than in a normal condition?

Observations with similar results were made by von Berlepsch, Hopf, Graf, Stosch, Vogel, Donhof, and many others; this was some time before 1866. Only a few reported that in some cases they had seen bees 12 days old gathering pollen. In Langstroth Revised, Dr. Donhof's experiments are reported entirely. The other books in the English language are not as detailed in this respect. In Cheshire's book I can't find anything. A. J. Cook, in his "Manual," says: ". . . . usually about 2 weeks if the colony is in a normal condition, though if all the bees are very young it may be only one week —these young bees do not leave the hive at all. . . . ." "A B C of Bee-Culture" says: "The first load of pollen is usually brought in, when the young bee is about two weeks old." T. W. Cowan says: "The bee leaves the hive to fly on the 14th day."

So far all experiments and books teach that a young bee will be more than 12 days old before she becomes a field-bee. Now there are some, like Mr. Getaz, who are of the opinion that under some pressing circumstances a young bee may go to the field at a younger age. Baron Berlepsch made an experiment in the year 1865; he formed a colony of young bees only. As soon as the oldest bees were 8 days old they held a play-spell. At a date when no bee could be older than 11 days, all honey and pollen was taken from the colony, to force the bees into the field; but no bee gathered anything, and the other day the colony was in a starving condition. This proves that no bee younger than 12 days can gather pollen or nectar ever under most pressing circumstances. Quite different is the fact that older bees, if necessary, can nurse the larvæ. This has no bearing on our question.

In view of these many experiments, made by most prominent bee-keepers, I will still stick to the opinion that bees younger than 12 days (very probably 16 days) can't gather pollen, honey or water, even under the most pressing circumstances. The simple assertion of Mr. Getaz that it is an "error" can't change this opinion.

The second error Mr. Getaz said I had made by the assertion that if the young bees could become field-bees at any age, if none or not enough brood is present in the hive, the swarming fever could never appear in any colony. He says:

"Because young bees can go to the field, there is absolutely no reason why this would prevent them from building queen-cells before taking to the field. If they *don't* build any when there is no unsealed brood, it is because they *can't*, and not because they *won't*."

It seems to me Mr. Getaz did not understand my reasoning, so I will explain. In the article mentioned above, Mr. Getaz says:

"As long as the nurse-bees have all the brood to feed that they can attend to, they will not build queen-cells, but as soon as there is an insufficient amount of brood to consume all the food they can prepare, queen-cells are started and queens reared. And usually swarming follows."

This is exactly my opinion, only I go a step farther: it is a surplus of larval food prepared by the young bees instinctively, that produces the swarming impulse, which influences all the impulses of the bees. The question is not whether we see a reason why the bees could build queen-cells, or rather queen-cups, or not, but it is, Are the circumstances that way, that the impulses of the bees are driving to this cell-building? It is easy to see, if a worker-bee of any age could change from a nurse-bee to a field-bee, such a surplus of nurse-bees, or rather of larval food, could never appear, and consequently no swarming impulse. It is true these young bees, before becoming field-bees, could build queen-cells, but as no surplus of *nurse*-bees could come up in a sufficient degree, the impulse for this cell-building will not appear. If the young bee could change her occupation, if she can't find employment in her regular one, such a state of unemployed nurses were impossible, consequently no swarming impulse would appear.

Now a few words in reply to another assertion of Mr. Getaz. He says: "If they [the bees] *don't* build any [queen-cells] when there is no unsealed brood, it is because they *can't*, and not because they won't."

If we talk about regular swarming, the bees build queen-cups and the queen will lay eggs in them. These queen-cups *can* be built whether unsealed brood is in the hive or not. But the caged queen *can't* lay eggs in them, consequently swarming is prevented. Further, the bees *won't* build queen-cells over larvæ, if they were present, because the queen, too, is present. They *would* do it if the queen were removed entirely and such cells must be cut out at proper time, if such a plan is used for preventing swarming. When I said the swarming impulse could not appear if the young bees of any age could become field-bees to their liking, I had not in mind Mr. G.'s colony with the caged queen, but any regular colony which is strong enough for swarming under favorable circumstances, consequently the above assertion of Mr. Getaz is entirely out of place.

The fact is, that swarming is actually prevented if the queen is caged so many days that the colony is without unsealed brood for at least 4 days; and that this manipulation is not as successful if the queen is released sooner, I explain in another way.

As long as the queen is caged the bees *can't* swarm; probably the swarming impulse is incited already and the bees will build queen-cups, but the queen can't lay eggs in them. The desire to swarm is increasing in the colony all the time; on the 10th day all the brood will be sealed and a large number of nurse-bees and many empty cells are present. On the 14th day the queen is released and will lay eggs in these empty cells; this will soon give the nurse-bees some employment, nevertheless the queen may lay eggs in queen-cups. A swarm would follow in this case, as soon as the first queen-cell is nearly sealed, but this can't be earlier than 8 or 9 days after the queen is released. When the queen was released the youngest larva was 14 days old; now, 8 or 9 days later this same bee has been out of the cell 1 or 2 days, and no more young bees are gnawing out, but many larvæ are to be fed. Such circumstances are just contrary to that which causes the swarming impulse, consequently all swarming is given up, if it is not so a few days earlier.

On the contrary, if the queen is released earlier, young bees are still gnawing out of the cells in the regular number at a time when a queen-cell is advanced enough for swarming, consequently a surplus of larval food may still be produced under some circumstances, and a swarm is the consequence.

Under What Circumstances Can Very Young Bees Work Afield?

The editorial note, and the note of Dr. C. C. Miller, on page 209, induce me to say a few words more in my controversy with Mr. Getaz about explaining the swarming impulse, or rather, the fact that a colony of bees will not swarm if the queen is caged or removed during such a length of time that the colony is without unsealed brood at least 4 days. Mr. Getaz thinks that during these 4 days the young bees, having no brood to nurse, will become field-bees. My opinion is that this is an error, and I explain the fact in an other way.

Now, Dr. C. C. Miller, F. Greiner, and others, have found by experiments that bees much less than 16 days old can become field-bees, if in a colony no old bees are present at all, but some brood to be fed. I know that such cases were observed, and H. von Buttel-Reepen in Germany, too, reports such cases. But these are exceptional variations of the instinct, and not the rule. Any animals in defending their young will do some things which they never would do under any other circumstances. A hen with young chickens, for instance, will attack a dog or a cat, and even men, if they come near her. I have seen a cock attacking a buzzard for defense of the young chickens. These cases reported by Dr. Miller and others seem to me are similar ones—are exceptions, which are very interesting, but do not prove very much against the rule. If we accept this conception of Dr. Miller's observation we see that he as well as Baron Berlepsch may be correct. In Berlepsch's experiment no brood was present, and therefore no variation of the inherited instinct.

I will mention another fact. If we remove a colony to another stand in the same apiary it will lose all the field-bees; young bees of all ages, honey and pollen are present, nevertheless in some cases the eggs and the youngest larvæ are destroyed by the bees in such colonies, especially if the colony held a play-spell a short time before its stand was changed. I have known this for many years, and Mr. Alexander mentioned this fact in the bee-papers a short time ago, and has, for this reason, recommended another way of increase. The reason is that such colonies having no field-bees can get no water, and can not prepare larval-food without water. The proper remedy is to give a comb filled with water to such colonies. If it would be the rule, or so very easy, that young bees of any age can become field-bees, we should think the oldest at least would fly out at once and would gather this necessary water, but they do not.

Now, granted that under some exceptional circumstances, if young larvæ are to be nursed, young bees can become field-bees, this surely will not be so in the case considered in our controversy. Here are conditions just contrary to those in Dr. Miller's case—plenty of old field-bees are present, and no brood to be fed at all; nothing could induce the young bees to go to the field except the fact that they have no occasion to fulfill *a part* of their regular duties. If the instinctively prepared chyle or larval-food can't be consumed by young larvæ, this chyle is changed into wax; the young bees will build combs, but they will not become field-bees.

Cibolo, Tex.

How to Breed the Bee of the Future

BY A. W. YATES.

To obtain the best results with poultry, horses, cattle, sheep, etc., one must be very careful in the selection of the breeding stock, none but the best are used—those that come the nearest to the ideal only, and then "sorts and variations" sometimes occur which, with good breeders, are always sent direct to the slaughter. So with bees. If we would have the best we must breed from the best—those that we get the best results from, that are gentle, whose queen is prolific and the bees industrious, to let nothing escape their search, and at the same time of singular beauty to attract the eye of the fancier; and to the building of a strain as near the ideal as it is possible to get. To accomplish this we must select the best queens, and the best drones, to breed from to the sacrifice of all others.

Many breeders are working for long tongues, and to this end may have accomplished something by crossing with the Cyprians, but they being an irritable race generally, and given to the laying-worker nuisance, are met with disfavor.

Prof. Cook's numerous microscopical measurements of the tongues of the Syrians and Cyprians, which he finds to be .006 of an inch longer than those of the Italian, would be so much in their favor, if it were not for their temper, but the apiarist dislikes, when opening a hive, to have a small swarm seem to race to see which one will get at him first.

The Italian, by constant care and choice along this line, may be so bred, and, I think, has, to a certain extent; but the difference is so small that it is scarcely perceptible; yet by diligence and care we hope in time to achieve the end sought after, and if we can produce a strain of bees that will work as well on red clover as on white, it will increase the honey-production to a great extent. They combine more good points and fewer faults than all others, and American breeders are working wonders by careful selection as to color, gentleness, and industry. At present our own pure-bred Italian is much better than the ordinary bee, in that it is more prolific and gentle, and defends itself better against its enemies, such as robbers, moth-worms, etc.

One man says, "By the way, whoever saw bees work on red clover?" I have, and many others have. The time is coming when we will see plenty of them that do.

Domestic animals are bred by strain, and by selecting such animals as show the most points in the line sought after. Race-horses are bred from dam and sire that are both fleet of foot; draft horses accordingly from heavy dam and sire; cattle the same—if for beef, or butter, or color, or whatever other point is sought after, they will after a time be brought about, and I have faith in the long-tongued bee being secured after a time. We cannot expect it all at once, but we have one great advantage over other breeders, in that we can produce several generations in one season.

We must be careful to conform as nearly as possible to nature's way in rearing the queen to obtain the best results and long life. And, by the way, I heard a man say a short time ago that he bought a queen that lived 6 years, as he did not clip her wings. I wonder how many daughters were reared in the same hive before he found it out! Of 7 queens that I know of being purchased of the same breeder two years ago, only two survived till the next year, and one of them proved to be a drone-layer the next spring; the other died in July. This breeder is rearing "long-lived queens with queenless colonies."

Nature's ways are by swarming or supersedure. Is it, then, natural that good "long-lived queens" can be reared in queenless colonies? Observe a cell from a colony that has cast a natural swarm. See the shape and thickness of it, and then tear it open and see royal jelly in it—enough to feed 2 or 3 such infants. Then try one from your queenless colony and see how they compare. This will tell you why 7 queens died before they were a year old.

Queens are easy to get. Simply a few eggs, a queenless colony, and a couple of weeks' time, and there they are. But what will they be good for? Much depends upon their feed and care. If we simply want to rear a few queens, all well and good, but if we wish to give each one a chance to develop to the best advantage, and equal, or excel, either parent, we must nourish this young opportunity to the best of our ability, and in so doing we shall make a distinct gain in this branch of our pursuit. We must solicit Dame Nature's help, for we must first of all follow her line, or our craft is shipwrecked before we are out of the harbor. And by so doing we shall have the bee of the future.

Hartford, Conn.

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Price of "Quality" Honey Not High Enough

BY GRANT STANLEY.

On page 67 appears a very interesting letter from the pen of M. A. Gill, of Colorado, on the price of honey. He seems inclined to the belief that present prices are high enough. I believe if Mr. Gill will study the question thoroughly on all sides he will take entirely different views of the matter. One very important question in regard to the production of honey he has entirely overlooked, or has failed to mention—a question which adjusts the price of every commodity produced in this country, or in fact any other—and that is the amount of thought and effort placed in its production necessary to put it upon the market above every manner of reproach.

We have been clamoring for honey of higher quality, and rightly so, as only by this means will we ever be able to increase its consumption. It must, indeed, be of such high quality that when bought even as Mr. Gill says, as a mere luxury, that future purchases will be made a matter of necessity. But to do this certainly costs considerable thought and effort on the part of the bee-keeper, and the honey must be sold at a higher price or the producer is at a loss.

Is it not true that the producers of every known commodity are continually exhausting every effort in the matter of quality and attractiveness in order to increase the sales of their product, and consequently enhance the price? I believe this is an inflexible rule among honest producers of all kinds, and if honey is to be brought before the public as it rightly deserves, the producers must do the same. I am afraid that if we should be content with present prices, and made no effort to better them or our product, it would not be long until honey would be a glut on the market; one thing is almost certain, it would furnish a good loop-hole for the bee-keeper who produces honey simply to sell, with no thought of neatness or quality, to dispose of his honey at the same price as the producer who has catered to the wants of the consumer.

It is about time for the bee-keeper to place on the market that which it demands, and stop talking about educating the public to the use of honey. It is well to remember that it is all wrong to try to educate the public in the use of an inferior article. Place your product on the market in the most attractive way, combined with as high a degree of quality as is possible to obtain, and sales will rapidly increase and the price advance.

Mr. Gill rightly says, "What the honey market needs is an increased consumption of the pure article upon the tables of the masses." What hinders it from being as in the days of the old patriarchs, a staple article of the world? Solomon tells us, "Eat thou honey because it is good." There is no one to blame but the bee-keepers themselves; if we can put a little quality into the producer we will get it back in the product.

We read in the papers of bee-keepers having sale for their honey as soon as off the hives, and in many instances at prices considerably above the market. Why is this? Of course many will put up the old cry, "Locality," but if you will investigate it you will find that it is only conditions which the bee-keeper himself has brought about, and can with a little energy be brought about in a great many places.

No, sir; the present prices of honey as listed are not high enough; we must place honey on the market of high quality, or it will not meet with ready sale, and an article of high quality cannot be offered for sale without an increase in price. The selling price of any commodity is always according to the quality. Let us remember that quality is an improvement, and improvement costs something. I have never heard of any market being overstocked with a strictly first-class article at any price.

Nisbet, Pa.

The Premiums we offer are all well worth working for. Look at them in this copy of the American Bee Journal.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Southern Bee-Keepers Awakening

It is gratifying to know that our "bee-folks in the South" are taking an interest in "Southern Beedom." I learn this from the many kind and interesting letters received lately. Many thanks to you, brethren, and I hope you will write me such letters often, giving, as many of them received, "something you know about bees," and what you are doing. I would be glad to hear from all our "Southern Beedom" readers. Several have sent some nice suggestions and offered to co-operate in making this department a good one. To these *I* wish very much to express my feelings of gratitude, and hope that I may also be able to help in return.

Texas Horsemint for Georgia

Mr. Louis H. Scholl:—On page 141, I notice that you invite correspondence from all Southern bee-keepers. I am especially interested in what you have to say about sowing seeds of honey-producing plants in waste places at the right time to keep the bees busy during our summer dearths. In 1904, Prof. Wilmon Newell (State Entomologist of Georgia at that time) came to this county (Tattnall) to a Farmers' Institute. Knowing that he was (or had been) a bee-keeper in Texas, I attended the Institute especially to meet him. I asked him how he thought Texas horsemint would do in this section. He thought it ought to do well here, and he gave me your address and told me to write to you to send me some of the seed. I was corresponding with W. H. Laws a little later, and I asked him about the horsemint seed. He replied that it was too late for him to save me any that season (then July), and so I did not write to you then.

Last spring (1905) I again wrote to Mr. Laws about the horsemint seed. He replied that he would save me some, but I haven't heard from him yet. I again wrote to him a few days ago. Do you have any of the seed on hand now? If not, do you know who has? I would very much like to try the horsemint here. I have tried other "cultivated" honey-plants here, but with very, very poor success. Bur and crimson clover do very well; alfalfa and sweet clover yet to be "heard" from.

We need some honey-plant here that can "tough it out" with the ragweed and other weeds in the fence "jams," ditch-banks, etc. Our spring surplus honey-flow ends about May 15. I have often wished that it began and ended a month later, then the colonies would have more time to build up strong before the first of the flow. I think horsemint would prolong the spring surplus flow if it would yield honey and the bees worked on it here. But immediately after the spring flow ends we generally have a "plague" of mosquito hawks and some bee-paralysis to depopulate our hives, so if the flow were prolonged it might not be of much benefit. The mosquito hawk "plague" lasts about a month, when the "hawks" suddenly disappear.

H. C. Barnard.

Glennville, Ga., March 8.

Horsemint has not been as plentiful of late years in the greater portion of our State as in former years. The dryness of our fall seasons is accountable for this, as the plant comes up in the fall and blooms next year in May. Hence, it is not very easy to obtain seed, especially out of season, as the plant soon dies down in summer. The seed would have to be gathered before this time. I know of no place where some of the seed could be obtained. As the seed should be planted in the fall I would procure it this summer.

I could not say whether horsemint would do well in Georgia for the purpose mentioned. It will have to be tried. To me, at least, it seems that sweet clover would be better. But we should be glad to have you make the experiment and report later.

Prospects for the Season of 1906

Our bees, in most of the Southern localities, have wintered well. The winter was a mild one with only occasional blusters—a few cold spells coming quite late this spring, but not doing any harm to bees south of Central Texas, and no reports have at this writing been received from parts further north.

An abundance of bloom has prevailed. Mistletoe was the beginning for the bees for both honey and pollen—a species of *Ilex* or Youpon following it early in and continuing throughout January. "Agherita," or triple-leafed barberry, came in before either of the foregoing had ceased blooming, and continued through February and March. Fruit-bloom in galore, and the wild dewberry, or a common blackberry-vine, bloomed in profusion for nearly three months, and is still in bloom at this writing. The willows and water-elms, box-elders, the pecan-nut and walnut-trees along the streams with the cottonwoods and hackberry-trees, have all been yielding their share of pollen and some nectar. The oaks are just thinking it's their time to come out, too. Redbud, or Judas-tree, has been in full bloom for several weeks, and several cultivated shrubs also. Our State flower—the Texas blue-bonnet, or blue-lupine—is now in full bloom, and the bees are bringing in loads of brightest red pollen from these beautiful blooms. A large number of other trees, shrubs and plants are going to come out in a short time.

The bees are generally in good condition, especially where sufficient stores were left for them last fall. Several apiaries I have seen where the colonies were running short early in spring. There is quite a difference in these colonies, and those that were not held back in breeding on account of lack of stores.

As I have been buying bees in various sections this winter and early spring, I have had occasion to examine the brood-nests of many colonies. Brood-rearing was going on in December, and in some yards strong colonies had as many as 8 combs of brood in January. In two yards visited in February it was not uncommon to find brood (sealed) in the upper stories, and new drones were plentiful. I have been rearing queens since two months ago.

The prospects in most parts of the South are quite favorable for a good season, although it is too early to know yet. It is somewhat dry in some localities, and some good rains are needed. Dry weather, however, is much more preferred in March and April, as the mesquite-tree—our main source—comes into bloom, and rain injures it very easily. It yields better in a dry season also, provided a good season is in the ground from the fall and winter rains, as these trees live upon the sap stored up in their trunks. Consequently rain now, and followed by dry weather during our mesquite yield, is to be wished for.

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The Order of the Brood-Nest

If we examine a regular brood-nest in spring we shall observe that it has a globular form, or nearly so, altered only by outside influences. Around this brood of all ages we see cells filled with pollen, forming a shell, as it were, about the brood, and outside of this pollen-shell the honey is stored. This arrangement is maintained under all circumstances as long as possible, and is according to the nature of the bees. The brood-nest, with the queen in it, is the all-attracting magnet. All the food gathered outside by the field-bees is stored as near as possible to the brood-nest.

As the pollen is the material from which the body of the bee is built up, and as it is the material most needed for nourishing the brood, it is placed next to the brood, where the young bees, which are the nurses, can always take it; and this is of much importance for the development of the colony. If pollen is far away from the brood-nest, quite often it is not used at all, and the bees are bound to remove it afterward when it is spoiled and unfit for consumption. If the bee-keeper knows the purpose and importance of this order he will not destroy it to the disadvantage of the bees and of his own success. Nevertheless, some hives are constructed in such a way that this order can not be preserved. With small frames the growing brood-nest crowds out the honey and the pollen from the center combs, and some bee-keepers think they have gained thereby a great advantage, while, in fact, a part of the brood, at least, is not sufficiently nourished for want of pollen, and on the ends of the brood-nest the pollen accumulates in cells which would be used for brood. This pollen in the outside combs means so much vitality and energy robbed from the coming generation of bees.

This order gives some hints as to the surplus arrangements. If a colony of bees could expand the combs in every direction the honey would be stored around the brood-nest, and the bee-keeper would have to take the honey from all four sides and from the top. For practical purposes we put the supers on top; and to force the honey into them we have to squeeze the brood-nest from the other sides. If all the honey gathered should go into the supers, the brood-chamber would have to be of such a size that every cell would be occupied with brood. That this is an arrangement quite contrary to the nature of the bees, the bees themselves show apparently. In such a small brood-chamber they rather diminish the brood, but store some honey in it, nevertheless. The smart bee-keeper then says, "My queens do not lay more than so and so much," and contracts the brood-nest still more. The small brood-chambers have the disadvantage that the colonies will not develop to such a strength as they would in large brood-chambers. On the other hand, we know that the bees are slow in commencing work in the supers if they have already stored some honey in the brood-chamber. The comb-honey producer chooses, of two evils, the lesser one. For this reason I invented my method of comb-honey production, by which this dilemma is avoided, and which I described in Gleanings 6 years ago.

Cibolo, Tex. L. STACHELHAUSEN.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

"Had It In for Him"—Hershiser Bottom-Board

The Afterthinker has "snuffed" (page 33), the Buffalo bottom-board man has "sniffed" (page 73), the "Southern Beedomite" has challenged (page 140), and "Betwixt & Between" has issued warning notes of caution.

Wonder if it isn't time for the "Frozen Canuck" to thaw out a bit and eat some of them. "Betwixt & Between" would do for breakfast if ye editor had not so soothingly patted the bear on the head (page 180). The Southerner's kindly smile has rendered him invulnerable, and the Afterthinker has already brought in the soup (page 214), so we shall proceed to dine on a

HERSHISER BOTTOM-BOARD—(See page 73).

Yes, I see many advantages in the Hershiser bottom-board, and see what a long article we got from Mr. H. by picking holes in it. But no matter how highly I esteem any implement or method, I can never say with Mr. H., "It presents to me not a single disadvantage." The Pettit system of ventilating with wedges between hive and bottom-board, and openings at top of super certainly has wedges which are "extra parts," but it does not have a bulky box under the hive. In my system of tiering up I like the hives near the ground, so that I can work comfortably over the top of a 3-story or 4-story extracting-hive. I understand that the Hershiser bottom-board is a "stand" as well, but rather too expensive to rest flat on the damp ground. The Holtermann portico is equally useful in checking robbing, and has the further advantage of holding a storm-door in spring.

In the cellar the Hershiser bottom-board has the marked disadvantage of taking up enough extra room to cut out about one hive in every pile. As regards confining bees to the hive in the cellar, I recognize a point of difference which may, or may not, bear on the case. Mine were confined to the portico with "wedged" entrance, but no other opening to allow a possible current of air across the bottom-board, and the space underneath the combs is greater in the Hershiser hive than in mine. Whether these factors would alter the result is worth testing.

Where mine were thus confined with portico screens, there were always some bees on the screen trying to get out, and making enough noise to be heard all over the cellar. I did *not say* they all wanted to go out, because some had asked that privilege; but "the school" was so quiet otherwise that such a request from a few disturbed the thoughts of the others. They were not like Mr. Hershiser's "school children"—"so accustomed to humming and buzzing that such sounds have ceased to irritate them."

To be sure, where bees are reported to be successfully wintered under machine shops; in cellars where the temperature runs away up or away down; in above-ground repositories, and other places quite unorthodox, one must broaden one's views on the requirements of good wintering. But it seems to me a great many of us are too easily satisfied, and it might *pay* to buy, dig or rent a cellar where the hives could be moved in from the out-yards, set down a few weeks to be sure the bees get a good flight, then carried down and quietly piled up and kept cool and quiet all winter. Have a good system of ventilation—a stove for severe weather; and why not a "cold-storage" arrangement for ice when necessary to keep temperature below 45 degrees?

For those who can not see their way to provide a specially arranged cellar, and there is danger of "runaway furnaces," etc., it might be worth while trying Mr. Hershiser's bottom-boards; but as his bees have had such a severe test this winter, it will be interesting to hear from him when they come to the commencement of the honey-flow, as to their condition.

J. L. Byer and Family

Canadian Beedom has often clipped with interest and profit from the writings of "York County Bee-Keeper," in the Canadian Bee Journal. We have much pleasure now in presenting a group picture of himself and family, and introducing them to our readers. In the front row are Mrs. Byer, Baby Walter, age 1 year; Annie, 7 years; and Mary, 9 years. The two "boys" in the back row are Edwin, 11 years, and Mr. J. L. Byer (age not given).

J. L. BYER AND FAMILY

In response to a request for the photograph shown herewith, Mr. Byer wrote:

Dear Friend Pettit:—Your letter just to hand. Honestly, in regard to a sketch of my bee-keeping life, I can think of nothing of importance more than what I sent Mr. Craig.

As to "fads" or "hobbies," why, I used to have hundreds of them, but, bless you, they have disappeared, one by one, until now I can hardly think of anything worthy those names. While I have learned to distinguish the queen-bee from the workers, as well as to master other minor but necessary details of bee-keeping, yet, as I look back over my bee-keeping life, one fact above all others stands out pre-eminently, and it is this: That after rubbing up against other bee-keepers through the medium of conventions and bee-papers, I find at the present time that I do not know half as much about bee-keeping as *I thought I knew* 10 years ago, when I first contemplated taking up the business for a living. J. L. Byer.

Markham, Ont.

We copy the following from the Canadian Bee Journal:

Friend Craig:—Replying to your request for a brief outline of my bee-keeping experience, I would say that I was brought up on the farm, and with the exception of time spent in learning telegraphy when about 19 years of age, have followed no other pursuit but bee-keeping. Disliking indoor work, I gave up the notion of telegraphy and returned to the work on the farm.

While my grandfather and my great uncle, who lived near us, were successful bee-keepers, and I had the benefit of their experience, yet I never contemplated taking up bee-keeping for a living until about 10 years ago, when I came into possession of a swarm of bees. I immediately contracted "bee-fever" in its most virulent form, and that fall bought 25 colonies, giving my note for 12 months. Visible assets: A No. 1 wife; baby boy of same quality; and 25 colonies of bees (to be paid for from proceeds of the honey they would gather the next season).

As the most of you know, I depend solely upon bee-keeping for a living. As to how we have succeeded, I can best illustrate by the following:

An Englishman, who lived near us for a number of years, in speaking of the advantages of Canada over the "Old Sod," used to say that "he had done remarkably well since coming to Canada. He had nothing when he landed here 40 years ago, and he had held his own; he had the same yet." Yet I believe, on looking at the picture, the most skeptical will agree with me, that in some respects, at least, we have more than "held our own." In fact, it is with pardonable pride that I venture to say we have "done remarkably well."

We produce extracted honey almost exclusively. I have no space to give methods, and suspect the fraternity are better without them, anyway. As to hives I use, least said about them the better. Canadian Bee Journal readers would only laugh at me if I told them, and you know, Mr. Editor, I am awfully sensitive!

Just a word more and I must close in order to catch the mail. I would call special attention of our friend of "Canadian Beedom," as well as some others, that in using the pronoun "we," I refer to my "best half" and myself. Mrs. Byer is an adept in the use of the honey-knife, and can take the "peelings" off a comb of honey as quickly and neatly as any one who ever came under my notice. "A word to the wise is sufficient." J. L. Byer.

Propolized Rags as Smoker-Fuel

When I see old propolis rags, dead grass, or other powerful smoker-producers suggested for dealing with vicious bees, as on page 137, it makes me think how easy it is to quarrel with the dumb animals, or insects, we have under us. They must be controlled, of course, but in order to control them to the best advantage one must control oneself first.

After writing the above, I noticed the sequel (page 209), and am more convinced than ever that "J. G." must have really quarreled with those bees.

Always Preparing in Bee-Work

The work in the apiary is a constant round of preparatory work for future results, and it is with bees as with every other kind of stock, to-morrrow never comes.

For some unaccountable reason the idea prevails that bees need little attention and no thought. It is true there is nothing in the animal kingdom that gives a greater return for the effort expended than the honey-bee, but that effort must be well, intelligently and timely applied.—E. H. Dewey, in the Prairie Farmer.

Two "Notes" from The Globe

The Globe has "Notes on Bees," of which the following are two:

If there is white bread being carried out of the hive something is wrong.

I would suspect that conditions were not normal.

In rearing drones, full frames of drone-comb can be had by filling the frame with drone-foundation. Insert a frame of this in the brood-nest of any colony. It will readily be occupied by the queen.

Plenty of drone-comb is usually present without going to that expense.

To Make Us Think

We submit the following just to make us all think:

He—Wise men hesitate—only fools are certain.
She—Are you sure?
He—"I am quite certain of it."
Then she laughed—Kansas City Independent.

Our ∵ Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

Keeping Dry Combs from Moths With Gasoline

On page 87, C. S. Guernsey says, "I never saw any instructions in the books or papers for keeping dry combs from moths by the use of gasoline." If he will look on page 437 (1902), under "Bee-Keeping for Women," he will find something about it.

As he may not have this number, and as additional light is there given, it may be well to reproduce the following:

> Dr. Miller had been reading to me about the fumes of gasoline being effectual. I did not have much faith in the fumes of gasoline, but I did have a good deal of faith in the gasoline itself. So, without consulting Dr. Miller, I concluded to experiment a little. I had about 50 combs that were wormy. Some of them had full-grown worms, some about half-size, and some just commencing work, so I felt I had a good chance to experiment.
>
> I took a bottle of gasoline and a small oil-can, such as is usually used about a sewing machine, as my outfit. I filled the oil-can with gasoline and was ready for work. I inspected each comb carefully, and whenever I saw the least suspicion of worms I squirted the cells full of gasoline from the oil-can. It was very quickly and easily done, and was most effectual even on the very large worms. I treated the whole 50 combs, and was sorry afterwards that I had not kept track of the time it took me, as I was surprised to see how quickly it was done.
>
> I felt sure it was a success as far as killing the worms was concerned, but I had a little misgiving as to the effect the gasoline might have upon the combs, and as to what the bees would have to say about accepting them after they had been so treated. I am happy to say that the combs were not injured in the least by the gasoline, and the bees made no objection to accepting them, so I am inclined to think it a pretty good way to treat them. Of course, one must be very careful not to use gasoline anywhere near a fire, as it is very inflammable.

When wax-worms are full-grown they are very hard to kill. The fumes of burning sulphur, even when very strong, seem to leave them in good health. It is a question how large a worm might be killed by being enclosed in the fumes of gasoline. But when the gasoline itself is squirted upon them there is no question in the case.

We are sometimes instructed to dig the larger worms out of their burrows with a wire-nail. It is much easier to squirt the gasoline upon them, and it does the work just as thoroughly.

◆

No Winter Losses—Turpentine to Get Rid of Ants

As this is the first day of March, and we now feel quite secure from winter losses, I thought I would report our successful wintering. Out of 75 colonies (with 10 rather light in stores in the fall) we, so far, have lost but 1 colony. There have been very few dead bees carried out of the hives the present winter, and I verily believe that some colonies have bred and reared young bees throughout the winter months, as the weather has been very mild at times, and young bees seemed to be trying their wings in front of the hives.

On pleasant days I have fed the bees by distributing canaille (coarse flour) on top of the hives, and they rolled it up like pollen on their busy little legs, and carried it off quite greedily. We now find them going to the woods to work on cottonwood and elm buds.

Please tell the gentleman who mentioned having caught 6 swarms of bees in decoy hives, that here is a gentle-woman (?) who, with the aid of mascule climbers, caught 26 absconding swarms from the neighboring vicinity, and we have them yet. Many of them proved to be prime swarms and great honey-gatherers. Some were 5-banded Italians, and others a kind of black bee. One colony in particular gave us 4 supers of fine honey in 1904. We had very little surplus honey last season.

I read somewhere about the ants being such a menace to bees in the South, as they also are in Nebraska. A good remedy is to apply turpentine along the seams and in their run-ways (with a common stiff feather). One application proves effectual in most cases. They don't wait to be told to pack up and go; they simply just "get up and git," and take their larvæ with them. The bees pay little or no attention to the turpentine, unless it happens to touch them.

Williams, Nebr., March 1. Mrs. Jas. Lamb.

You are to be congratulated on your successful wintering. Lookout, however, that they have plenty of stores until your main harvest comes.

Caught 26 stray swarms! That, alone, is a good summer's work. The brother with his 6 will please take a back seat.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Helpful Bees—Milkweed Pollen

That was an interesting observation of Mr. Suddith's, when he saw the guards on the alighting-board acting like jockeys grooming a horse in pulling off the milkweed pollen from the feet of incoming bees. That's just so as it ought to be—make themselves useful, as well as "sassy" and inquisitorial. If there was only a kind of domestic dog for a guard at our thresholds that would clean off the feet of "we'uns" when we come in, how swift all the sisters would be to purchase a pup! Page 185.

Control of Swarming?

Absolute-control-of-the-swarming problem, is it now? And yet most of us are not shouting or dancing around in glee! Strange creatures, we! Still I guess we are waiting with a tolerable amount of interest to hear the particulars from Mr. Davenport. Shall we realize upon our newly-born hopes—or have we been listening to the claims of a patent medicine? Page 186.

Crowding Out the Queen

C. P. Dadant mentions again a difficulty which we often read of. Bees put some new honey in nearly every cell and the queen has nowhere to lay. Now, I am not by any means saying that the brethren need not look out for this—let them be duly careful—but *in my location, with my strain of bees*, it is an empty bug-a-boo, I am well convinced. My bees are well settled German-Italian hybrids. They will clear room for the queen if she wants it—and if the brood-nest is too small it's the queen that's to blame. With a strain of bees more inclined to disregard the queen's wishes naturally the trouble would be worse—and also worse in heavy and long-continued honey-flows than in the short and moderate ones of a none-too-good location.

Yes, if you buy a tremendous lot of hives, and very earnestly want a lot of bees to swarm, they may improve that occasion to say, "This is our off year." If you want to be sure of increase you must of course make it artificially. And Mr. D. is shrewd and wise to use for artificial increase those colonies that would not have yielded much surplus anyway—and especially wise in insisting that they have queens given them of the best parentage instead of being allowed to rear their own. Page 187.

Buying, Selling, and Eating Honey

That was a wise saying of C. W. Dayton's, where he said: "People like to buy honey, but do not like to have it sold to them." Nice to take that saying in the opposite direction, too. I don't like to sell honey, but I like to have people come and buy it of me.

And so the landlady and the hired girl didn't agree. Fear of adulteration with sugar—else the boarders' eating it too fast—stopped the consumption of honey at one boarding house. Page 188.

Honey-Yielding Plants of Texas

Mr. Scholl did a good job for Texas (and how much we all need the same for our own localities) in that botanical list of honey-yielding plants. Represents the observations of six years, it seems. It does not claim to be complete. Should have the color and appearance of each kind of pollen. *Desirable* to have the color and quality of each kind of honey; but that is such a difficult problem when minor supplies are considered that for a long time to come we may have to be content with knowing about the honey of the the species that yield large surplus. Guesses are somewhat better than nothing in that particular matter. If the visits of other insects show that there is nectar, and the bees pay no attention to it, we have pretty good indication that the quality is not first-class. Take for example the northern plant, *Scrophularia nodosa*, carpenter's square. Abundant nectar can usually be seen in its cups; and sometimes bees gather it, but quite often they let it entirely alone. In this case the amount of nectar visible is so large that it can not be that they can get ahead faster at something else—must be that (according to their judgment) it is pretty poor. Getting every last one of the honey-plants of any locality is not nearly so important as full and reliable information about those you do get.

Several of the bits of information collected are of special interest. Not true that lindens fail to yield in Texas. Sorry to see that the goldenrods are no better there than they are here. Sad that an abundant plant of national distribution should be of special value in such limited localities. And the prickly pear gets a black eye for yielding abundant honey of rank, flavor. Glad to see that my old and departed friend, the blue lupine, gets a good honey-mark. The surprise of the list is the prominence of the oaks. I had supposed the oaks to be of practically no account for honey, except an occasional big yield from frozen leaves under the stimulus of succeeding warm weather. Wonder if Mr. Scholl could have been deceived by that. I have seen oat-stubble, after the oats were cut, exude enormous quantities of sweet juice; but it would be hardly fair to class the oat as a honey-plant on that account.

I think it might be well to have an addendum list also in which all should be named in the order of flowering. One name, and that the commonest one, might suffice in such a list. Pages 189-192.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Doubtless a Case of Bee-Diarrhea

I send you a piece of comb from a colony that died in the cellar the past week (March 26). The piece of comb is from a colony that I transferred last summer from a box-hive, and the biggest part of the combs looked like this piece. Is this comb diseased? This colony has had more dead bees in front of their hive this winter than any other colony in the cellar, and last fall they acted as if they were affected with paralysis. Do you think it is dangerous to use the hive and combs for bees again this spring? Iowa.

Answer.—There is no appearance of disease about the comb, and you need have no hesitation about using the hive and combs again. The disease of which bees generally die in winter is diarrhea, but that is not a disease that will be conveyed by the comb to a colony placed, the following season, in hives or on combs left by a colony killed by it. It is nothing strange that more dead bees were found in front of this hive, because more of the bees in that hive were dying, and most likely dying of diarrhea.

Controlling Swarming and Increase—Comb Honey and Excluders—"Appendix" to 'Forty Years"

1. What method have you used for controlling swarming and increase during the past two seasons?

2. In working for comb honey without queen-excluders, are you not troubled with pollen in the sections?

3. When you write the "Appendix" to the forthcoming edition of your "Forty Years Among the Bees," will it be sold separately to those who have the old edition? West Virginia.

Answers.—1. This has been the program generally: As soon as the possibility of swarming is suspected, a few of the strongest colonies are examined to see if cells are started. If none are found in these strongest ones, then it isn't necessary to examine the rest. As soon as any are found, then all colonies are examined for cells every 10 days or so. If only eggs are found in queen-cells, they are destroyed, and nothing more, for sometimes it happens that when these eggs are destroyed the colony gives up further attempt at swarming. Indeed, it sometimes happens that eggs may be found every 10 days for 2 or 3 times, and then the bees give it up for the season. Generally, however, the next visit will show larvæ half-grown in cells. When anything more than eggs or very young larvæ are found, they are destroyed, then the queen is removed, and the colony is left queenless for about 10 says. Then there is given to the colony a queen, and if it is a laying queen of the current season's rearing, there is no thought of further swarming for the season. It isn't quite so sure if an older queen is given, although the chances for swarming are so few that it is hardly worth while to pay further attention. If a queen is better than the average, that queen will probably be kept in a nucleus during the 10 days her colony is queenless, and then returned. Sometimes a colony swarms when no one is by, and in that case the colony is found queenless at next visit, and a queen is given to it, as nearly as can be judged, 10 days after it has become queenless. Of course, all queen-cells are destroyed at the end, as well as at the beginning, of the 10 days queenlessness in all cases.

This plan is more troublesome than merely shaking swarms, but it yields more honey per colony, and I think more for the amount of labor.

2. No; but I might be troubled that way if I didn't fill sections with foundation. If there isn't plenty of drone-comb in the brood-chamber, and only small starters in the sections, then the queen is likely to go up to lay in drone-cells in sections, and that will bring pollen in the sections. I don't mean that I never have pollen or brood in sections, but that it is so rare that it wouldn't be worth while to use excluders.

3. I don't know; that's a matter with the publisher. [Yes, we will be able to furnish the "Appendix" for 10 cents, postpaid.—Ed.]

Hives in Long Rows and Sunflower Shade—Tar-Paper for Hive-Covering

1. I have a bee-yard where I can put hives in long rows, with no shade. How would it do to have the hive-rows 15 feet apart, and plant a mammoth sunflower about a foot south of the entrance of the hive for shade, and keep the bottom leaves trimmed off? Clipped queens could climb up the sunflowers.

2. Would you advise covering the hives with tar-paper for spring protection? Iowa.

Answers.—1. It wouldn't make the very best shade, but it would be better than none. Better not do very much clipping of leaves. At any rate, wait till the plants are well grown before you trim up any, for those lower leaves help to make strong growth.

2. Likely tarred paper is as good as anything else.

Starting With Bees—Sweet Clover

I have been taking the American Bee Journal something over a year, and I am getting in the bee-notion. Perhaps the Italian bee-fever would be nearer the real thing. I am going to begin with the 8-frame dovetailed hive. Now, like all beginners, I want to ask a lot of questions that likely have been answered three or four times the last year. I haven't had anything to do with the honey-bee for over 30 years, and then I was about 6 years old, but I remember that warm summer day yet! There is no one near here that keeps bees, so I will have to get them from a distance.

1. I am in Northern Minnesota. Does it make any difference whether I get bees from the Southern States, or would it be better to get them as near home as possible?

2. What is the best to start with, a colony, or less?

3. I see a good many seem to think sweet clover is a good honey-plant. Where can I get the seed? Minnesota.

Answers.—1. Better get them as near home as possible. Transportation from any distance south would be more than the cost of the bees. If you can't do any better, get black bees in box-hives, and then you can transfer and Italianize.

2. It will be better to start with two full colonies. Of course you can start with less than a colony, by getting a 3-frame nucleus, but it will take more time for it to build up.

3. You ought to find it advertised in this Journal.

Increasing a Nucleus—Placing a Doolittle Feeder

1. I have purchased a 3-frame nucleus. Will you tell me just how I must proceed to increase this two or three fold the coming season. Please give me the method in detail. Do not refer me to some standard work, but give me the process step by step.

2. I wish to feed some colonies I have bought and which are light in stores. In using the Doolittle feeder where in the hive shall I put it—as an outside frame, or in the center of the hive? Iowa.

Answers.—1. My good friend, I'm afraid you misapprehend the purpose and scope of this department. It is intended to supplement, not to supplant, the teachings of the text-books. Every little while a fresh set of beginners enters the American Bee Journal family, and each of them needs to know all that he would get from a good book of instruction in bee-keeping. If he is not to be referred to any standard work, but is told in this department all he needs to know, several numbers of the Journal will be filled. Then when another fresh set starts in the same thing must be told over again, and after you have been a subscriber for several years you'll be likely to object to so much repetition, won't you? Of course it would be a nice thing for each beginner so long as he is a beginner, but after he has been a beginner for some time it will not be profitable to find his favorite journal filled with old stuff that he already knows all about, while there is so much that is fresh and new. So I am sure you will pardon me if I do not go into detail so fully as under other circumstances I might be glad to do, and answer in a few lines what might occupy pages.

The first thing you will probably need to do after establishing your nucleus in a full-sized hive, will be to exercise no little patience to keep from meddling with it too much. It simply needs to grow, and if you have furnished it with frames filled with worker-foundation and abundance of food till a bountiful supply is offered in the fields, that's all it will ask of you. Very likely, after the population has doubled, you will begin to think it is time to be doing something by way of making a start in another hive. Don't you do it. Wait till you have brood in at least 6 frames, the hive well filled with bees. For by the time 6 frames are filled with brood the population will have a good deal more than doubled.

More than one way may now be followed. The quickest way will be to make two 2-frame nuclei, and give to each a laying queen. But as you may not want to buy the queens, and especially as it will give you more practise, I'll give a way that will be very likely to suit: Take 2 of the frames that contain brood and 1 of the outside frames that contains little or no brood together with the adhering bees and the queen. Put these in a hive on a new stand, and plug up the entrance with grass or leaves. Open the entrance in about two days, if the bees have not already dug it open. A week later let the hives swap places. That's all, if you only want to double.

If you think the season sufficiently favorable to warrant further increase, divide the queenless colony in two parts, putting one part in a new hive on a new stand, and fastening the bees in for 2 or 3 days. See that each part has a good queen-cell, located where it will be well protected by the bees. Of course, the vacant space in each hive must be filled out with frames filled with foundation.

2. Don't think of dividing the brood-nest, but put it next to the first frame that contains brood at one side.

Natural Swarming—8-Frame and 10-Frame Hives

I am just reading your book, entitled "Forty Years Among the Bees," and have never been so interested in a book before, although I have read a great many from Jules Verne to Thackeray.

I am a beginner in bee-culture, and am very much interested. I notice you dislike natural swarming, yet use and recommend 8-frame hives. Yet the "A B C of Bee Culture" says large hives are apt to be non-swarmers. I am in a section of the country where it is profitable, if at all, to run for comb honey instead of extracted.

CONNECTICUT.

ANSWER.—It is true that large hives are less given to swarming than small ones, and it is certainly true that I dislike natural swarming. In effect, however, I'm limited to an 8-frame hive. You will understand the matter better if you again refer to "Forty Years Among the Bees," page 113, also last paragraph of page 130. Before surplus receptacles are given, no queen is ever limited as to room. She has even more room than a 10-frame hive. When she has filled all the room in 8 frames, she is given a second story, and it is nothing strange for her to occupy 10 or more frames—in rare cases 15 frames. So she isn't much crowded, is she? When it comes time to put on supers, one story is taken away, and 8 of the best frames of brood are left. That limits the room of the queen, but the bees are not limited for room, for super-room is given in abundance.

I think I can do better at producing comb honey by this means than I would if I allowed 10 brood-frames all the time. Then there's the advantage—no small one—of the lighter hives and supers to handle. But no one should adopt the 8-frame hive unless he knows he will give close attention to his bees. For a very large number of bee-keepers a 10-frame hive is much safer—less danger of starvation in winter. And it is only right to say that for years I used 10-frame hives and harvested good crops of comb honey.

Mail Order Banking

Under our banking system, business men everywhere find it to their advantage to make remittances by checks, rather than by bank drafts, postoffice or express money orders. There are several good reasons for this, but the two principal ones are these:

First—The convenience in paying a bill by simply writing out a check, thus making it a great time-saver as well.

LOUIS P. SCOVILLE
President

RAVENSWOOD EXCHANGE BANK

Second—It gives the most satisfactory form of receipt for the payment made.

The farmer has become a business man. In the progress he has made within the past ten years he has found it necessary and greatly to his profit and convenience to handle his own financial affairs, rather than trust them to the local banker, lawyer or merchant. Our agricultural colleges, farm institutes, and great conventions, that relate to agriculture in various forms, have all advocated the importance of the farmer paying more attention to the financial end of his business. Instead of being isolated from the great commercial centers, as was the case in the earlier days, he has, through the means of modern transportation facilities, rural mail routes, telephones and interurban railways, become very closely identified with these great centers. His home is his business office, and instead of spending time driving considerable distances to his local town and making expenditures for things that many times he does not want, he has brought to his home the great mail order catalogues, and when he wants to make his selection, which is usually done in conference with the whole family on a rainy day, or in the evening, he simply writes his order, encloses a check, and the mail order merchant does the rest.

A recent difficulty has arisen with reference to personal checks, because of the excessive exchange charge imposed by local banks. The local banker is usually biased in favor of the local merchant, because he is his best customer. The farmer who wants to save from twenty-five to fifty per cent on his purchases—which he can do through the modern mail order method of buying—finds his local bank a bank of deposit only. How much better it would be for the farmer to make his deposits in a bank in a great mail order center like Chicago. Banking by mail has become an established fact, and to keep progress with the great mail order movement, the Ravenswood Exchange Bank of Chicago, Ill., has arranged to carry farmers' accounts, allowing them to draw their checks on this bank for their purchases, which will be accepted anywhere without exchange. This will be a great convenience to farmers everywhere.

Mail order merchandising is conducted in the city of Chicago to the amount of $200,000,000 annually.

Chicago is the greatest live stock market in the world. Many of our farmers make direct shipments to commission houses at the Union Stock Yards and receive checks in return. It can be arranged to have these checks sent to this bank for deposit to the account of the farmer without exchange charges.

Chicago is likewise the great produce center, and commission houses here are remitting millions of dollars annually to the farmers direct. By the plan proposed, the farmer can have this placed to his deposit and receive the credit notice from the bank.

Chicago is also the great grain market and the same rule applies in that case.

This mail order banking proposition is best explained through the literature the Ravenswood Exchange Bank, of Chicago, Ill., which will be sent to anyone asking for it.

The Ravenswood Exchange Bank is composed of men who have had agricultural experience and are familiar with the requirements of the farmer along banking lines. The president, Mr. Louis P. Scoville, under whose direct supervision the mail order business is conducted, has had a wide business experience; he is also a careful lawyer, all of which insures proper handling of not only the accounts, but the loans made by this bank. We are personally acquainted with all the bank's stockholders, directors and officers. In fact, we have done our own banking at the Ravenswood Exchange Bank ever since its organization, and all our experience with it has been entirely satisfactory.

If you want to do business with a city bank that will safeguard your interests and treat you right, you can do no better than to connect yourself with the Ravenswood Exchange Bank. If you are interested, don't fail to write at once for their literature, which explains fully their proposition, methods, etc. Address, Ravenswood Exchange Bank, Chicago, Ill., and kindly mention the American Bee Journal when writing.

Queen-Clipping Device Free!

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it FREE as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
CHICAGO, ILL.

Reports and Experiences

Outdoor Bees Wintered Fine

My bees in a warm house this winter became diseased, and one-fourth of them died, there being 4 bushels of dead bees on the floor. Bees wintered outdoors are fine. March was a terror. J. C. STEWART.

St. Joseph, Mo., April 2.

Winter Loss Nearly One-Fourth

Reports from bee-keepers in this part of the country are not flattering. We winter bees here on the summer stands. There was not a day in March that bees could fly. More of them will have to be fed, and should have been fed in March, but the weather was too cold, some mornings it being at the zero mark. The loss here will be nearly one-fourth. C. ZOLL.

Vermont, Ill., April 5.

Bees Wintered Fine Outdoors

I commenced the season of 1905 with 45 colonies of bees in fair condition, taking about 2000 pounds of honey all told. Bees went into winter quarters in fine condition, and are wintering the finest I ever saw so far, on the summer stands, with plenty of stores to last them until June. I look for a prosperous season in 1906, as there has been no zero weather yet. A. J. MCBRIDE.

Mast, N. C., Feb. 27.

Land of Potatoes—and Some Honey

We have had a beautiful winter up here in this cold north country. Bees so far are wintering well, and the prospects for another season are fairly promising. Not many are interested in bees here. It is nearly all potatoes. We grow more potatoes than any other county in the world. The last season's crop was about 11,000,000 bushels. With an area equal to the State of Massachusetts, but with only about one-seventh cleared land, this is not a bad record. We can not produce honey like California in quantity, but when it comes to quality the Californians are entirely out-classed. This is the land of potatoes, buckwheat cakes and honey. O. B. GRIFFIN.

Caribou, Maine, March 6.

Wintered Well—Late Spring

Bees have wintered well, and seem to be in very good condition. We are having a very late spring, and I am afraid it will injure our prospect for honey if it continues much longer. W. S. FEEBACK.

Carlisle, Ky., April 2.

More Than Enough Rain

We have had more than enough rain here; it will be a big year for the farmer and horticulturist. There will be lots of bee-food, but the honey-flow is to be determined by the mildness of the weather later. W. A. PRYAL.

San Francisco, Calif., March 28.

Outdoor Bees Have Suffered

Our bees in the cellar seem exceptionally quiet for the time of the year. The outdoor wintered bees have suffered some for the last month. It seems we had all of our winter in March. Examining 3 colonies this morning, headed by tested queens, they appear to be in good shape. On removing the cushion carefully I found 1 in 5 spaces, 2 in 6 spaces, and each forming a compact cluster with the temperature at or near the freezing point.

Naples, N. Y., April 2. F. GREINER.

Rose Lawn Queens

Italians—Caucasians—Carniolans

Line bred from individual types for color, gentleness and honey-producing. A scientific queen-rearing plant; standard prices and fair dealing. Our "Pure Gold" strain of Italians are unsurpassed for gentleness and fertility. We offer best facilities for prompt shipment to the Middle West. Send for catalog. ROSE LAWN APIARIES,
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Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 75 cents.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

"The Honey-Money Stories."—A 64-page-and-cover booklet, 5¾x8½ inches in size, printed on best quality paper. Many short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each ocupying a full page, but in different parts of the booklet. It has in all 33 fine illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keepers' Lullaby." This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price, 25 cents, or 3 copies for 50 cents.

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3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

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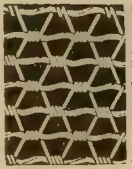

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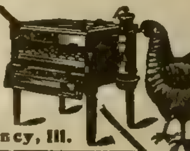

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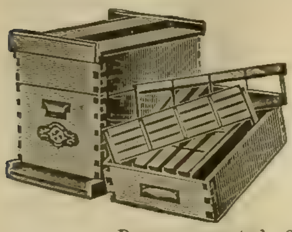

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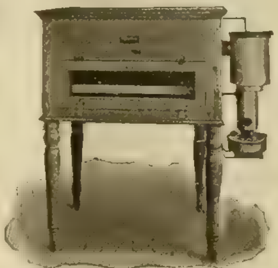

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$13.95
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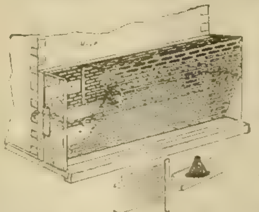

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No Climbing.
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Order to-day.
Prices, by mail, 70c
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We can take live young men who really want to become expert bee-keepers, give them employment in our apiaries, and teach them as much as they can learn in one season. In applying state age, height, weight, and previous occupation. None but those of good moral habits need apply. MORLEY PETTIT,
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My Catalog for 1906 is now ready for distribution. I am the Northern Headquarters for **Adel Queens and Bees**, and good, honest Bee-Keepers' Supplies. If you have not received my Catalog, write for it. Address,

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Send for our 1906 Free Illustrated Catalog. Good Goods, Low Prices and Prompt Shipments are what you get if you send your orders to—

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Many are using them. You should be. Write to-day for catalog, etc.

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Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. SPECIAL DISCOUNTS now. Write to-day. Address,

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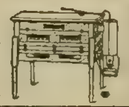

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Complete Stock for 1906 now on hand.

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You will **SAVE MONEY BUYING FROM ME.**
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Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses. Freeman and Central Aves.

Honey and ✣ Beeswax ✣

CHICAGO, March 7—Choice white comb honey is not plentiful, and it sells upon arrival at 15c per pound Other grades of comb are not in demand and sell at uncertain prices of 10@14c per pound. Choice white extracted, 6½@7½c; amber grades, 5½@6½c. Beeswax, 30c per pound.
R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
GRIGGS BROS.

INDIANAPOLIS, March 24—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, March 20—The call for honey is falling off, and while the supply is not abundant, yet it equals the demand. We quote fancy white, 16@17c; amber, 13@14c. Extracted, white clover, 7@8c; amber, 6@7c. Beeswax, 28c.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, March 19.—Demand for comb honey is fair, especially for the better grades, and fancy white is selling at from 14@15c; No. 1, 13c; light amber, 11@12c; no more demand for dark comb honey. Extracted is in good demand, mostly California, at unchanged prices. Beeswax is firm at from 29@31c, according to quality.
HILDRETH & SEGELKEN.

CINCINNATI, April 4.—There is no material change in the honey market since our last report. The demand does not come up to expectations, which, in all probability, is due to the inclement weather of the past month. We continue to quote amber in barrels at 5¼@6½c. Fancy white in crates of two 60-lb. cans at 6½@8½c. Choice yellow beeswax 30c. delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, March 16—The supply of comb honey is not very large. Demand is light, best 24 section white selling at 3.25 per case, amber at 25@50c per case less. Extracted, white, 6½c per pound; amber, 6c. Beeswax, 25@30c. We look for an increased demand in the near future.
C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fency white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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When consigning, buying or selling, consult
R. A. BURNETT & CO.
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Cash for Beeswax
Highest market price paid promptly all the time for good wax.
Frank G. Clark, 147 E. Kinzie St. Chicago, Ill.

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Until further notice, finest quality new crop California Water-White White Sage and Light Amber **HONEY** in 60-lb. tins, 2 in a case; new cans and new cases. Write for prices and samples, and state quantity you want.
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34Atf Please mention the Bee Journal.

FOR SALE
20 cases of comb honey—mostly white clover, in non-drip cases. **LOUIS WERNER,**
15A3t EDWARDSVILLE, ILL.

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

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We handle the finest Bee-Supplies, made by the **W. T. Falconer Mfg. Co.**, Jamestown, N. Y. Big Discounts on early orders. Let us figure with you on your wants.

MUTH SPECIAL DOVETAIL HIVES have a Honey-Board, Warp-Proof Cover, and Bottom-Board. Think of it, same price as the regular styles. Send for Catalog.

THE FRED W. MUTH CO.
51 Walnut Street, CINCINNATI, OHIO.

Mention Bee Journal when writing.

"I Will Never Make Any More Goods by Hand"

"So says one of our customers," states a Lewis agent to the G. B. Lewis Co., in a letter recently received and now on file at our Watertown office.

The Agent writes as follows:

G. B. Lewis Co., Watertown, Wis. March 28, 1906.

Gentlemen:—We note that the Lewis Goods this season are finer than ever. No. 2 sections are fine. Hives and all hive parts are without any knots. In fact, they are so nice that we are very much surprised, as we supposed that as lumber gets scarcer and higher, necessarily poorer grades of lumber would have to be used. We are receiving many compliments on the goods we are shipping out. The largest producer in Michigan says: "They are the finest I have ever received." Another customer says: "Goods are so satisfactory that I want more." The purchaser of a $165 order writes: "I will never make any more goods by hand; goods are fine." We wish to ask, Did we get an extra-good lot, and will they continue superb? Words cannot express the satisfaction at seeing such stock.

Referring to the above, the G. B. Lewis Co. wishes to state that the Agent referred to did not get a shipment of goods from us which was picked out especially for him or anyone else, but that he was shipped our regular line of goods taken from our regular enormous stock which we now have on hand, and which we are adding to every day, and which we shall continue to ship to each and every customer whoever he may be.

G. B. LEWIS COMPANY

Manufacturers of Bee-Keepers' Supplies

WATERTOWN, WIS., U.S.A.

AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., APRIL 19, 1906 No. 16

Apiary of Schaffner Bros., near Los Angeles, Calif.

(Formerly owned by the late John H. Martin, well known to many bee-keepers as "Rambler.")

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

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Goes to press Monday morning.

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Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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ROOT'S GOODS AT FACTORY PRICES
Finest and largest stock of Supplies in Illinois. Italian Bees and Queens in season. Catalog free. 15 eggs of Pure Barred Plymouth Rocks, $1.00. Incubators and Brooders always on hand.
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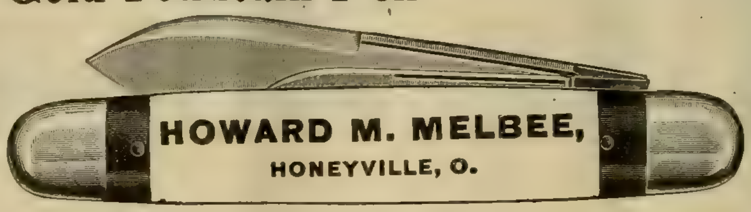
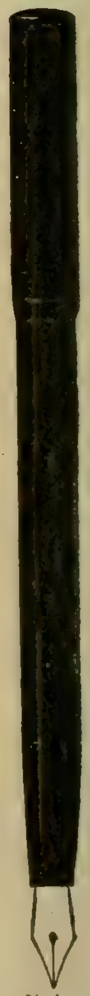


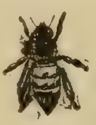
(This cut is the full size of the Knife.)



⅔ size

NOVELTY POCKET-KNIFE

(Name and Address on one side—Three Bees on the other side.)



Worker

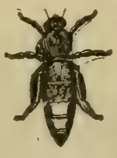
Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

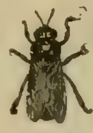


Queen

SOLID GOLD FOUNTAIN PEN

Finally we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.



Drone

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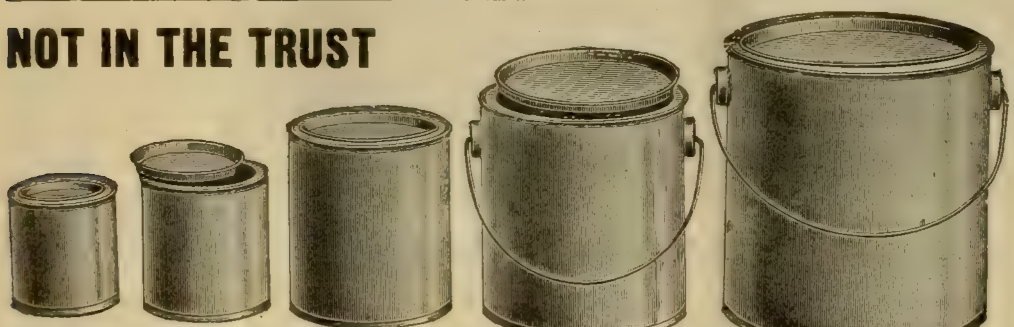

We will stamp your Cans "PURE EXTRACTED HONEY"—FREE

Our prices for 1906 are the lowest to the National Bee-Keepers' Association. Write us.

Now is the time TO BUY

FRICTION TOP CANS
FOR HONEY AND SYRUP

Canners Can Co.
1035 W. 47th St., CHICAGO, ILL.

"DADANT'S FOUNDATION"
IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness. No Sagging, No Loss.
Twenty-seven Years of Experience. We Guarantee Satisfaction.
WAX WORKED INTO FOUNDATION

BEE-SUPPLIES of all kinds.
Beeswax Wanted at all times...

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FENCE *Strongest Made*

Made of **High Carbon** coiled wire. We have no **agents.** Sell direct to user at **factory prices on 30 days free trial.** We pay **all freight.** Catalog shows 37 styles and heights of farm and poultry fence. **It's free.** Buy direct. Write today

COILED SPRING FENCE CO.
Box 89 **WINCHESTER, INDIANA.**

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If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,
FOR HIS
"Bee-Keeper's Guide."
Liberal Discounts to the Trade.

DON'T WAIT for the season to start before you order your **Bee-Supplies**

DITTMER'S FOUNDATION
IS THE BEST MADE

We make a specialty of working wax for Cash.
Retail—Wholesale—Jobbing
BEESWAX ALWAYS WANTED

Write for our Price-List and samples; we would like to send them to you at our expense.

GUS DITTMER, Augusta, Wis.

Mention Bee Journal when writing.

Wisconsin Basswood Sections
And Prompt Shipments
Is what we are making for our customers.
—DOVETAILED HIVES AND SHIPPING-CASES—
We carry a full line of SUPPLIES. Ask for Catalog.
THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

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The Pacific Rural Press has been a household word throughout California for 35 years. It is authority on all matters regarding the soil or products of California. Weekly, illustrated: Edited by practical specialists. Two Dollars per year. Send for sample copy.

Pacific Rural Press,
330 Market Street, SAN FRANCISCO, CALIF.
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65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

Mention Bee Journal when writing.

Root's Bee-Supplies

You know what this means. **Four carloads of New Goods on hand.** Our business increased last year 100 percent over 1904. This is a proof that we are saving our customers money. Try us. **Low Freight Rates from Toledo. Large Discounts—that tells the story.** Our 80-page Catalog is sent free.

GRIGGS BROS.
521 Monroe Street, TOLEDO, OHIO.

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ACCURACY

IN SECTIONS

Were you ever annoyed by receiving poor Sections? Sections that were rough, bad color, inaccurately cut? Then you know what it means. The Root System of making and grading their Sections insures perfection. With the best possible machinery and lumber, together with a scheme of insuring best grading, the Root output of Sections is the largest in the world, and they are used by bee-keepers everywhere with the best of satisfaction. When you buy Sections this year see that the box bears the trade-mark that makes Root's Goods Famous.

IN HIVES

There is no need of going into details why a Hive should be made with the greatest possible accuracy. If the work is not done very near perfect the bees will glue up the Hive with propolis and then your trouble begins. There's a satisfaction of putting up Root's Hives that more than pays for their slightly extra cost over the cheap-made kinds. Read what Mr. Dobson says:

The Experience of Two Bee-Keepers

CHAPTER I.

The A. I. Root Co., Medina. Minnetonka, Minn., March 28, 1906.

Gentlemen:—I am writing you in regard to some goods I bought of your agent, Mr. J. C. Acklin, 1024 Miss. St., St. Paul. I purchased five Danzenbaker hives with full sheets of foundation in brood-chamber and super. I will say this much for Root's Goods: I never saw nicer or cleaner stock, no cracked or broken pieces, and everything fitted to perfection. Everything full count, including nails, etc.

CHAPTER II.

To-day I was over to a neighbor's helping him assemble some newly purchased hives made by a firm in——————. I was tempted to ask him why he didn't get Root's Goods. I wish you could have seen the difference. When I went there he had not uncrated them. I said to him, "Have you got all you need?" He said, "Oh, yes." Well, we found out differently. They had sent only half enough foundation, no small tacks for fastening wire, and not half enough nails, and sixteen top-bars short. I guess we said something to ourselves about that shipping clerk. WM. V. DOBSON.

THE A. I. ROOT COMPANY

MEDINA, OHIO

Branch Offices in the United States

The A. I. Root Co., 44 Vesey St., New York City.
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The A. I. Root Co., 144 E. Erie St., Chicago, Ill.
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AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor CHICAGO, ILL., APRIL 19, 1906 Vol. XLVI—No. 16

Editorial Notes and Comments

Apiarian Experiments in Canada

Prof. H. R. Rowsome, Lecturer in Apiculture, Ontario Agricultural College, in his reports gives an account of three experiments, none of which was a howling success:

SIMMINS' PLAN FOR PREVENTION OF SWARMING,

which consists in keeping constantly unfinished combs between the brood-nest and the entrance, was tried with 5 colonies. All 5 swarmed, although there was partial excuse in the fact that it was a bad season for swarming. In speaking of the plan, Prof. Rowsome says:

> The inference is that a colony (the queen being young) will not swarm when the parent colony can not be easily protected against robbing, and a colony can not be easily defended when there is a large empty space at the entrance of a hive, as is the case when the first 4 or 5 frames contain starters merely and not combs.

Is this not a new theory?

THE TOWNSEND SUPER-PLAN,

having both sections and extracting-combs in the same super, was tried with separators over 3 hives, and without separators over 3 others:

> The honey-flow was extremely good. Where there were no separators some sections were not touched at all, the sections and combs on either side of them being built out into these sections. Those sections that were built out unduly were apparently nearly 2½ inches thick in the middle, and were badly filled at the edges. The bees were very slow in working on the sections, doing so only when they had filled the extracting combs.

PAINTING TRAVEL-STAINED SECTIONS.

With regard to these, Prof. Rowsome reports:

> I had hopes that a very thin coating of wax applied to the surface of dirty comb honey would improve its appearance. I tried painting hot wax with a varnish-brush upon comb honey, but the wax, instead of leaving an equal coat upon all the indentations of the cappings filled up the hollows and left a smooth surface, which also looked mussy and more unmarketable, but it certainly did cover up the travel-stains.

Queenless Colonies in Spring

If you are a beginner, anxious to increase the number of your colonies, you will be distressed to find that one or more are queenless. Perhaps you may find one of your very best colonies contains no brood at the opening of spring, when all other colonies contain brood, and after watching and waiting in vain for any appearance of eggs or brood, the unwelcome truth is finally forced in upon you that the colony is hopelessly queenless.

It is a moral certainty that to such a colony you will give a frame of brood from some other colony, so that the queenless bees may rear therefrom a queen. Left to your own experience, it will take years for you to learn any better, if indeed you ever learn better. But if you trust to the experience of others, you will not fool away time trying to have that colony rear a queen. It may do later in the season, but not in spring. Of course you can keep up the strength of the colony by giving it brood from time to time; but that's robbing Peter to pay Paul. The loss of brood will do more harm to the other colonies than the gain to the unfortunate. At so early a time the chances of success in rearing a queen are not the most brilliant. The attempt to rear a queen from the first brood given may be an utter failure; a queen may be reared only to disappear in some mysterious way; and if you are as successful as to get a young queen to laying, it will be only to find later on that she is practically worthless. A good queen *may* be reared early in spring; but a good queen rarely *is* reared in spring.

If you are wise, the first hard work you do when you find a colony queenless in spring is remorselessly to break up the colony and distribute its parts to other colonies. The words "hard work" are used advisedly, for it is hard work for the beginner to reduce by one the number of his colonies; but it is the profitable thing to do. He may have one less colony; but he will have more bees; and at the close of the season more colonies.

Don't fool with a queenless colony in spring; break it up.

The Sting-Trowel Theory

After slumbering more or less quietly for a few years, the romantic tale that the bees drop into each cell of honey a small drop of poison from the sting before sealing up the cell, using the sting as a trowel to work the wax, seems to have started anew its round of the public press. To any who have sent in clippings of the kind, possibly wondering what foundation there may be for the yarn, it may be said that it is all a work of imagination, its originator apparently seeming to think it true, but never offering a particle of proof. Of course, none of the papers that give it currency will bother themselves with a contradiction, and the only thing that can be done is patiently to allow it to run its course and die out, only to be resurrected 7 years later by some penny-a-liner who has nothing else sensational on hand.

Wouldn't Call an Italian-Black a Hybrid

We have received the following from R. F. Holtermann, who attended the Michigan Convention, the report of which began on page 302:

> FRIEND YORK:—After reading the report of the Michigan State Convention, I felt as if I had just grounds for having some one up, or some Journal up, for defamation of character. It says:
>
> "As to race of bees, Mr. Holtermann prefers a hybrid of about three-quarters Italian and one-quarter black."
>
> It seems to me it was made pretty clear (very clear) that it was a cross between Italian and Carniolan. If that is the "black" blood referred to, it would be all right, but by "hybrid" we generally understand something else.
>
> By the way, would it not be well to have all bee-keepers and the publishers of bee-literature (who can watch and control the matter)

make a firm resolve not to call a cross between the common black and Italian a hybrid any longer? We have been using this term knowing better, and a person not a bee-keeper, reading our literature, must be perplexed, and then amused, at our use of the term.

Bees have consumed an unusual amount of stores in the cellars, no doubt owing to high and changeable temperature. I lost 9 colonies out of 338, and 1 starved since putting out.

I consider outside winterers have the best of us this year. But, of course, the winter was exceptional. R. F. HOLTERMANN.

Brantford, Ont., April 6.

Miscellaneous News ✢ Items

Death of Hon. J. M. Hambaugh.—Since the last number went to press, we have received notice from Mr. G. F. Merriam, of California, saying that Hon. J. M. Hambaugh, a late Director of the National Bee-Keepers' Association, died the afternoon of April 5, in Escondido, Calif., from a cancer on the neck. . Three weeks before, Mr. Hambaugh went to a hospital in Los Angeles to have the cancer removed, but he was told that nothing could be done for him.

Mr. Hambaugh was one of the leading bee-keepers of Illinois for many years before going to California. He, with Jas. A. Stone, installed the apiarian exhibit of this State at the Columbian Exposition, in 1903.

Very soon after the Chicago World's Fair Mr. Hambaugh moved to Southern California, where he has continued his reputation as a bee-keeper. His loss will be keenly felt. His going seems like a personal loss to us, and will be so to many who knew him best.

We will soon publish a biographical sketch of Mr. Hambaugh.

* * *

National Convention of 1906.—We have received the following from Mr. C. P. Dadant, the President of the National Bee-Keepers' Association:

MR. EDITOR:—I see that some of our friends are getting impatient to hear of the next place of meeting and date of the National Convention. Let them not think that the Executive Committee have been asleep. There was never a time when so much correspondence was required. The Texas folks had the promise of the meeting at San Antonio for two years, or at least they were given encouragement three years ago, and the meeting was set for Texas for 1905. The appearance of yellow fever in the South made it advisable to change it to Chicago. The members of the committee felt that the Texans were entitled to it this year, if they could secure railroad rates. On the other hand, there was a strong sentiment in favor of St. Paul and the G. A. R. The Texas folks have at last secured the rates, and the only thing to fix is the date of the meeting, which will be put as late as possible, so that another yellow fever epidemic in New Orleans need not make any difference since it is always stopped at the opening of cool weather. Just as soon as the date is set it will be announced.

As to meeting evary season with the G. A. R., if the National wishes it thus hereafter, they can have it. But I fear many times the G. A. R. comes too early for our busy honey crops. The bee-keeper usually wants to harvest his crop before he attends the convention. The Executive Committee would exceed their authority if they were to dictate such a course. The convention has power to settle it if it so chooses. C. P. DADANT, *President.*

Hamilton, Ill., April 6.

* * *

New Edition of "Forty Years."—We have just issued a new cloth-bound edition of Dr. C. C. Miller's book—"Forty Years Among the Bees." There has been added to this edition an "Appendix," which consists of comments on the previous edition, and experiences that the past three years have developed, and also Dr. Miller's latest photograph, taken expressly for this book. It is the best likeness we ever saw of the Doctor.

The "Appendix" (with the Doctor's picture) is also printed in a separate form, so that all who have the first edition can send for it (10 cents) and put it in the volume they have already. Thus they will have as complete a volume as the new one just issued. The price of the new edition remains the same as the former one, which is $1.00, postpaid; or with the weekly American Bee Journal one year—*both for $1.80* (instead of $1.75 as heretofore).

Every bee-keeper should have this book. It describes in detail the experiences and results of nearly 45 years of successful bee-keeping. The story is told in Dr. Miller's original and very entertaining manner. The first few pages give an account of his boyhood days, his early struggles to get an education, and then follows the rest of the book devoted exclusively to telling in detail just how *he* manages to produce large crops of honey. Over 100 pictures in the book were taken by Dr. Miller himself. They help wonderfully to make the reading matter plainer. If you haven't a copy of this book, better send us $1.00 for it at once; or forward $1.80, and we will credit your subscription to the American Bee Journal for one year and mail you the book.

* * *

An Unfortunate, But Determined, Californian is Delos Wood, of Soldiers' Home. He wrote us as follows on March 16:

Having lost by the mountain fire last fall all I had of this world's goods—house and contents, barn and hay, bees and fixtures, in all amounting to nearly $3000—I decided to quit business and live at the National Home for disabled volunteer soldiers. I lost over 50 colonies of bees and many extra hives, etc.

Spring is now here, and with the merry hum of the bees the old fever has struck me, and I have taken up the work again and expect to be in the business on a larger scale than ever in one of the mountain canyons near the Soldiers' Home, in Los Angeles Co., Calif., and I must have the American Bee Journal. DELOS WOOD.

Surely, Mr. Wood has lots of determination when after all his misfortunes he will re-enter the "bee-business on a larger scale than ever." We wish him every success, and trust that he may soon recover from his heavy fire losses.

As an indication of Mr. Wood's "never-give-upness," he has sent us the following poem, the author of which seems to be unknown:

Never Give Up

"Never give up" in a cause that is just,
But labor with power and will.
"Never give up" be your motto and trust,
And your aims you'll surely fulfill.
"Never give up"—it's a meaning that's true;
It's a power, tho' silent, that's dear.
"Never give up"—it's plain to your view,
In the end it will give you good cheer.

"Never give up" to trouble and care
You may meet in the pathway of life;
"Never give up" to the gloom of despair,
But conquer its sorrow and strife.
"Never give up" in the efforts of right,
Whatever your calling may be.
"Never give up;" you'll win in the fight,
And your mind will be happy and free.

* * *

Only the "Square Deal" Pays.—One of the most successful queen-breeders in the United States says this:

Orders are coming in fast now. I booked 100 untested Italian queens for a former customer to-day, to be used in building up an out-apiary. I have furnished him many queens, all for his own use, during the last 4 years. Repeated orders tell the tale. When a man gets what he wants he knows where to get the same again; but if he gets beat, he wants no more of that medicine.

* * *

An Appreciation comes to us from Wm. H. K. Eagerty, of Kansas, in these words:

You are doing your part to make bee-keeping a success. Your Journal is as regular as clock-work. You deserve great praise for getting the American Bee Journal up in such fine shape.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"" written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

◆

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Contributed Special Articles

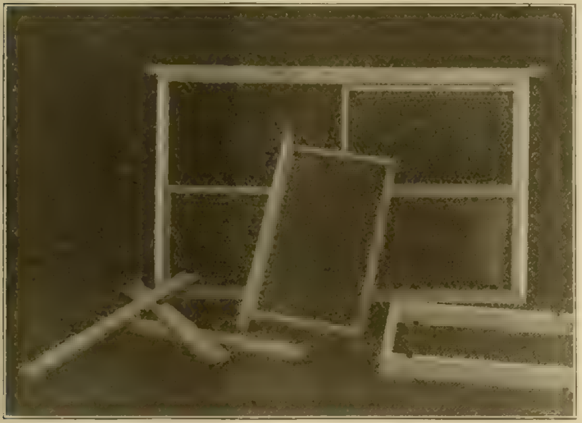
Nucleus Method of Queen-Rearing

BY F. GREINER.

THIS branch of apiculture is one of the most interesting and, to me, most fascinating branches of our pursuit. This is due in a great measure to the progress we have made in late years. Our forefathers were not ignorant of certain fundamental facts in regard to rearing queens, and applied this knowledge in their way; but not until American bee-masters took up this work, giving it their undivided attention, that methods were brought out which put everything previously known "in the shade."

The discovery that larvæ could be transferred from one cell to another without harm to the developing insect was made by a German bee-master during the first years of my bee-keeping—about 30 years ago, if I remember rightly. It seemed to be a frequently occurring trouble that colonies refused to rear queens or start cells over given brood, and the advice given at that time in order to outwit these obstinate bees was to remove the larvæ from the cells which they had started over their own brood, and substitute selected larvæ from the desired type. It was found that this plan worked every time, and it is my opinion that this procedure will produce queens second to none.

Priming artificial cells with royal food does very well, and if we do our work well we can usually succeed in getting the large majority of cells accepted. After the bees have once accepted a cell and supplied it abundantly with suitable food, according to their fashion, we can then do almost anything with it, and the bees will continue taking care of the inmate.



It stands to reason that the larva which we transfer will find more suitable surroundings in that queen-cell from which a royal larva has just been removed than in an artificial cell clumsily prepared by man's fingers. A larva placed in the warm bed of another will probably not notice the change, and receive not the slightest setback, but go right on and develop into a most perfect queen-bee.

I am well aware that the above is as yet largely theory. It needs careful testing whether or not thus produced queen-bees are any better for it. But it is quite certain that we cannot make a mistake if we let our bees accept a lot of stocked-up cells first, allow them to take care of the young larvæ for about 24 hours, then remove them and replace with just-hatched larvæ from our best mother-bee. I look upon this method with so much favor that I have adopted it as the best plan. In all our operations with bees we must remain as close to nature as possible and consistent with the object to be accomplished.

If it were possible and practical to obtain our queen-cells from our best colonies, having them start the cells naturally and under the swarming impulse when the honey-season is on, that would be the ideal, and we will do well to make the very best use of all queen-cells that are so built in our apiaries by our breeding colonies; but the quantity is too limited, and we do not often have them at the time when we need them most; consequently we are depending upon other more prolific methods, and the one outlined is a good one.

As to the matter of mating the queens, the baby-nucleus plan is all the go at present—at any rate among the queen-breeders. I have tested the Pratt nucleus boxes and have been successful with them, still I do not keep them in use. I fear they do not take care of themselves as larger and more populous nucleus colonies would do. With a larger nucleus colony feeding is seldom necessary. This is an item in favor of it, although the larger the more expensive.

A few years ago I made a lot of small frames of which 4 fill a regular brood-frame. I can use them thus in my regular hives, or I can use them separately in a small hive by attaching a top-bar to each. The way I do use them is by means of a sort of long-ideal hive holding 18 or 20 of them. By means of division-boards, close-fitting, I can divide the long-ideal hive into 4 compartments, a small entrance to each. When I first made this small frame, my idea was to use them in a small hive during the summer, and unite a number of them, putting 4 frames into one large brood-frame.

In practice this uniting and putting on large frames did not work to my satisfaction. It was unpleasant work, and took too much time. I conceived the idea that perhaps I might winter these nuclei on the small frame and thus have nucleus hives ready and stocked up early in the season and at any time. This worked well. A few days before the queen-cells are ready I slip in the division-boards, letting the queen go where she will. On the third day cells are given to the queenless parts; when these queens are laying they are removed, and if we desire to increase the number of our nuclei the hive is moved to another place and an empty one like the one moved away is put in its place. Each compartment is fitted out with honey-combs, and at least one comb of brood and bees. The flying bees or field-bees from the moved hive make pretty fair nuclei and we are thus doubling the number to start with. With these hives it is an easy matter to have what nuclei we want to use.

The uniting in the fall is also easy. In fact, the whole matter becomes so easy that it almost runs itself. The feeding can be done by giving combs heavy with honey instead of liquid feed. There is no trouble in getting any of the regular colonies to clean up such combs and fill them with honey during the early part of the season.

It goes without saying that these hives do not winter on their summer stands, but have to be taken into the cellar; but 4 of the nuclei, when they are united in the fall by removing the division-boards, make a large enough body of bees to guarantee the wintering indoors.

I have used some empty shipping boxes obtainable at the grocery store and made these long-ideal hives from them, but I don't like this sort of economy. It is more agreeable to have all hives uniform—nucleus hives as well as standard-size hives and winter-cases—and I become more and more disgusted with those I have in use. I believe we fare better by using new lumber in hive-making all the way through, if it does cost a little more.

The illustration shows the little nucleus frame full of comb with top-bar attached; also one frame without top-bar and 3 of the top-bars lying by the side. The little staples, bent over, are the means to hold frame and bar together; the reader will observe the notches cut out of the frame which admit slipping the staples in place. The frame is reversible, i. e., the top-bar may be attached to either side.

The illustration also shows that 4 nucleus frames may be slipped into a regular brood-frame. This feature is of value, as by doing so we may have these frames filled with honey, pollen and brood by any of our regular colonies, thus giving us an opportunity to help and build up the nuclei when it seems necessary. However, I want to say that a 4 or 5 frame nucleus of this kind is in pretty good shape to hold its own all through the season except winter.

The credit for the staple-device clasping frame and top-bar together belongs to Mr. Pratt, of baby-nucleus fame.

Naples, N. Y.

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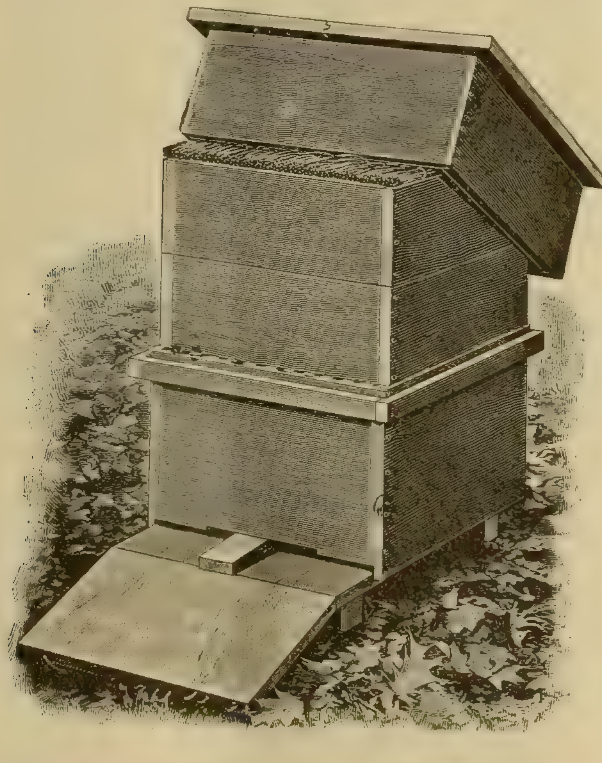
9—Dadant Methods of Honey-Production

BY C. P. DADANT.

THE first crops of honey that we produced with two or more apiaries were of honey in small glass boxes or in the Adair section-box. This Adair box was the fore-runner of the "pound" section. The sections held about 3 pounds of honey each and were clamped together in the shape of a box, with a glass at each end. As this was before the invention of comb foundation, or rather before the practical use and manufacture of it, we had to fasten small pieces of comb to each section to secure straight combs, and even with that help the combs were not always straight. In addition to that difficulty, we had a number of inferior seasons in succession, and many of our cases would become stale before they were filled. It was then that we tried a hanging frame in a shallow super for extracting. The difference in results confirmed our previous views on the great difference between allowing the bees to build all the combs, and furnishing to them sets of combs already built from previous years.

We tried the extracting super-frames side by side with the comb-honey sections; we tried also sections in wide frames side by side with extracting frames, and at once also recognized the difference in results between allowing the bees to produce honey in large receptacles, and compelling them to build in small sections. When we gave our bees full super-frames in half-story supers, and placed by the side of these a number of one-pound sections, all equally supplied with starters, we ascertained that the bees would almost invariably begin work in the large frames in preference to the sections, even when the sections were placed nearer to the brood-combs and in the center of the brood-nest. This fact is explained by Oliver Foster better than by any one else:



"When we take in consideration that the object on the part of the bees, in storing up honey in summer, is to have it accessible for winter consumption, and that, in winter, the bees collect in a round ball, as nearly as possible, in a semi-torpid state—with but little if any motion, except that gradual moving of bees from the center to the surface and from the surface to the center of this ball—we may imagine how unwelcome it is to them to be obliged to divide their stores between 4 separate apartments, each of which is 4 inches square and 12 inches long, with no communication between these apartments."

The above quotation makes it plain, and in very few words, why bees dislike to build in small receptacles, and why the producers of "chunk" honey produce such large crops. Add to this the great gain secured by extracting the honey and returning the combs to the bees to be filled again, and you will readily understand how it was that, after trying a few extracting supers, with the hive-body in close communication with the supers, we no longer cared for any other method of production.

We had used a honey-board over the frames. We discarded it. We tried a skeleton honey-board, to break joints; we discarded it, also. An oilcloth laid over the brood-combs and placed over the super during the harvest was all the cover we used under the hive-cap. Later, we adopted the straw mat, which no one uses but ourselves, as far as we can learn, and which yet deserves strong commendation, for it is good to keep the heat in the brood-chamber in winter, and to keep the heat of the sun off in the summer. We keep these mats on the hive at all times with the best of results. They are an old European implement, which gardeners use for all sorts of purposes, and of many sizes, for covering hotbeds, sheltering early plants in cool nights, and even as a shelter to valuable "espaliers"—fruit-trees trained to a wall or a trellis—that form an adornment to many a country or cottage garden.

The super, with its frames hanging right over the brood-frames, and filled with combs from the previous season, gives our bees such ample room, and of so free an access, that they go up into it without hesitancy; and if we carefully calculate the probability of a large crop, and provide them with enough empty comb in good time—the other requirements being also provided for—we need not be afraid of many natural swarms. It is only when the bees desire to change their queen, owing to old age or failing prolificness, or when a strange queen has been unwillingly accepted by them, that we may expect an occasional swarm. Besides, if we keep our surplus combs sufficiently numerous to provide for storing-room, we secure immense results.

The assertion made by some, that bees are compelled to produce beeswax, whether they will or not, and that this wax is lost when combs are provided already built, is entirely erroneous. The bees do produce a little wax naturally during a heavy flow, but the quantity thus produced is barely sufficient to repair damaged cells that have been run through the extractor; to lengthen the combs, and seal them as the honey ripens. On the other hand, when no comb is furnished, or not enough to keep the bees at work, they must, in many instances, remain idle until wax enough is produced by digestion to build the storing-combs.

As an instance of what may be achieved during a very heavy flow, I will mention the results secured at one time: We had been extracting the honey in an apiary of 87 colonies. It took 3 days to go through this apiary. The flow of honey was very heavy, the honey harvested being quite dense and needed less evaporating than usual. At the end of the third day—as I knew that the bees had been working very busily—I examined the first hives from which we had extracted the honey 3 days before, and found all the supers with honey in every cell—the supers probably half filled. Such quick results I have never seen since. It was in 1884. I do not believe that half as much honey could have been secured if the bees had had to build the combs. Hamilton, Ill.

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Time a Queenless Swarm Will Remain Clustered

BY F. L. DAY.

FROM my own experience I had formerly supposed that a swarm of bees would not remain clustered more than 10 or 15 minutes without its queen, or at least a queen of some kind. I had also understood, from the reading of bee-literature, that such was the case. But last season I had a notable exception to this rule. I had a very fine swarm of Golden Italians, which had been the upper story of one of my 4 colonies treated by the Alexander plan. This colony remained 6 days after being placed on a new stand. The colony from which it was taken had itself sent out a swarm on the same day that I removed the upper story. This upper story was removed on the tenth day from the first preparation of the colony, and not on the thirty-ninth day, as Mr. Alexander mistakenly states in his scathing criticism of the report of my test of his plan of increase. If Gleanings ever finds room to publish the reply which I sent in 7 months ago, I hope to be set right before the readers of that paper.

But to return to the swarm question; I got them back in their own hive when they had swarmed 6 days after being separated from the mother colony. They had reared a fine queen from the cells started before separating, and now settled down to business, soon becoming one of my most promising colonies. I gave them one super for extracting, and soon added a second. The queen soon had the 10 frames in the brood-chamber packed full of brood. It was of no avail to give an abundance of room as a preventive of swarming. The first swarm had come out June 7. By July 1 they had a great number of queen-cells, which I cut out. I also removed cells again on July 11, 18, 24 and 30. This was quite often (for a non-swarming plan)—five times in one month, after a colony had been divided once, besides.

On July 31 the swarm came out. While I had been cutting queen-cells all through July, the queen had kept the 10 frames packed full of brood, and the colony had become very populous.

I have a few small trees or shrubs among my hives, not for shade, but to help the bees mark the location of their hives. They are also convenient for swarms to cluster on. One of these trees gets most of the swarms. Under this tree I had a box to set a hive on when shaking a swarm off. The swarm in question had a clipped queen which I caught as she came out of the hive. The swarm settled on the favorite tree, in three clusters, several feet apart, each cluster being a fair-sized one. Although I had the queen all right, I wished to get the swarm back in its hive. I shook the tree and smoked the bees, but they were extremely obstinate. Having tried to swarm for a month, they did not like to be balked in their purpose. As I shook them off the tree, time and again, a portion of them kept falling on the box below. I used the smoker on these, but only a few would take wing. The most of the bees crawled down the sides of the box on the grass or small bushes in the rear. After a time I managed to get a fair portion of them in the air and saw many of them going into their own hive. Then I went to the house for a short time, and, on coming back, I took a brief survey of the yard and went into the shop to work.

About an hour afterward I heard a sound of swarming. I found bees going into the hive which had swarmed. I went out to the tree where the swarm had clustered, and found a good part of the swarm still in the box, where they had been for fully 1½ hours. On smoking them again they went back to their hive at once. Detroit City, Minn.

Convention Proceedings

Report of the Northern Michigan Convention

BY IRA D. BARTLETT.

The Northern Michigan Bee-Keepers' Association met at Kalkaska, April 4 and 5, 1906.

Pres. Geo. H. Kirkpatrick called the convention to order at 2 p. m., on April 4.

The Secretary's report and also the Treasurer's report were read and approved.

Mr. Hutchinson moved that we pay $1.00 and join the National Association in a body. Motion was withdrawn.

Mr. Irish—Shall we be entitled to the rebate if we do not all pay in $1.00, but only those who do not belong?

Mr. Beacham made a motion and it was seconded, that we who do not belong to the National pay $1.00 for National and local. Carried.

MANAGEMENT OF OUT-APIARIES.

E. D. Townsend, of Remus, then read a paper on the management of out-yards. Mr. Townsend said that one person with one good, efficient helper, could manage any number of yards. He feeds in the fall about 25 pounds to each colony if needed; puts his bees in clamps, and leaves them until early spring; supplies plenty of combs and keeps down increase; advises a system so simple that you can advise your assistant, and he can understand and go on with the work without your presence. Ten days after the flow stops he extracts. Each yard is supplied with a complete outfit, saying that it does not pay to move implements from one yard to another.

Mr. Kitson—How many stories high does Mr. Townsend tier up?

Mr. Townsend—One to five stories.

Mr. Beacham says that he would have to extract twice a year, as he could not distinguish the strong-flavored from the light-mild honey.

Mr. Townsend meant that he extracted after each flow.

Elmer Hutchinson asked what success he had with bee-escapes.

Mr. Townsend replied that he did not use escapes with extracted honey.

Mr. Hutchinson then read a letter from a dealer using alcohol barrels, advising the use of them, but to dry them thoroughly.

Mr. Beacham said, "I do not want any barrels."

Mr. Kirkpatrick asked Mr. Townsend how he kept the queen out of the surplus receptacle. He applies all receptacles on top instead of raising up supers and putting under. Mr. Chapman always uses excluders to keep the queen below, but raises brood from brood-nest to super, and destroys queen-cells in time. Mr. Smith says he always uses excluders. Mr. Beacham uses queen-excluders, but does not raise any brood-combs out of brood-nest.

Mr. Kitson—Does Mr. Townsend clip his queens?

Mr. Townsend—No.

Mr. Coveyou asked if it would be advisable to put an excluder under the brood-nest.

"Very few have tried it."

THE NATIONAL ASSOCIATION AND NORTHERN MICHIGAN.

The Secretary then read a letter from N. E. France, who asked that this question be discussed: "How can the National Association be of more value to Northern Michigan members?" and asked that a reply be sent him.

Mr. Townsend—Reduce the transportation rate on bees.

Mr. Beacham—The rate on honey is too high.

Mr. Bartlett—First class rate on beeswax.

Mr. Beacham said that he considered the National report as highly instructive, and that the Secretary deserves great credit for his efforts. Mr. Coveyou expressed the same opinion.

Mr. Beacham asked the chair to appoint a committee of three to draft resolutions to be sent to the National. Messrs. Hutchinson, Townsend and Chapman were appointed.

Mr. Coveyou—How can the Northern Michigan Bee-Keepers' Association be of more value to its members? If we could get together we might buy supplies cheaper.

MARKETING HONEY.

Mr. Chapman said, "Give away samples to prospective customers, and you will be well repaid"—at least that has been his experience, as he received many nice orders later on after doing so.

Mr. Smith said, "Take a 60-pound can of honey with a honey-gate, and step into a kitchen and say, 'I want to give you a sample of honey,' and draw out a little and let them taste it;" and his experience is that you will sell them a quantity right there, providing your honey is the best.

Mr. Kirkpatrick said, "Do not sell to the consumer at the same price you would to the wholesale trade." He sells only in $1.00 or more quantities. Mr. Kitson sells in quart jars. Mr. Beacham sells in quart jars at 35 cents. Mrs. Morrow says that her trade demands small packages. Mr. Smith thinks it pays to pick up cans previously delivered with honey, as it pays the expense of the trip.

Mr. Root said, "Try to educate your customers to use granulated honey, and to know that it is pure;" he also said that he had samples which he would be glad to give to those wanting them.

Mr. Root has used paper oyster pails very satisfactorily as a package to sell honey in.

At the evening session Pres. Kirkpatrick, in the absence of Rev. Gray, showed some lantern slides of the A. I. Root Co., after which he showed some of his own making. The light of the machine not being very bright, the effect was not the best. He concluded by showing a slide of live bees, which was very amusing and interesting.

EXTRACTED HONEY AND ITS QUALITY.

Pres. Kirkpatrick then read a paper entitled, "Extracted Honey and Its Quality." He said, "Place colonies in a location sheltered from wind, and in a good white honey locality. He prefers the shallow hives, and has over 200 of them at present. He tiers up when the hives are full of bees and brood, and raises the frames from brood-nest to super above to get strong colonies. He says his bees cap more readily, and he gets more uniform quality of honey. He can keep different varieties of honey separate more easily with the shallow super. He believes that the red raspberry yields the very best honey, and says that the honey not capped should never be sold to the consumer or put on market for sale to such. He urged that quality makes the difference between success and failure of a bee-keeper; that is, produce only the very best, and your success is assured.

A Member—If I had not heard Mr. Kirkpatrick read that paper, I should have said, "That was Mr. Chapman's paper."

Mr. Beacham also advocates the shallow frames for the production of A No. 1 extracted honey, as he gets better-ripened honey.

Mr. Chapman has had frames and sections drawn out, filled, and capped in 7 days, and believes that if the colony is very strong the honey will be ripened in one-half the time that is required by a weak colony.

Mr. Kirkpatrick leaves his extracting combs on as long as possible before extracting.

SPRING MANAGEMENT OF BEES.

Mr. Hilton—First note the condition of the bees—see if they have a queen and stores. To feed for stimulating you get the best results by feeding from the outside. Use the Simplicity feeder. We should be very careful in the spreading of brood. A little honey fed early saves much early brood, as the bees can reach it without having to go to the outside combs to get it.

Mr. Kirkpatrick does not feed unless the bees need the honey.

Mr. Chapman would not feed very early, but would advise feeding when the bees are breeding very fast in May.

Pres. Kirkpatrick then appointed Messrs. Hubert Root, W. Z. Hutchinson, and Geo. E. Hilton, to act as judges on the honey displayed, and to award the prizes.

(Continued next week.)

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Changes in Apiarian Freight-Rates

The Transportation Committee appointed by the Ontario Bee-Keepers' Association to meet the Dominion Railway Commission, with reference to better rates on bee-keepers' goods, have some improvement to report, but not much. The committee consists of R. F. Holtermann, J. D. Evans and Wm. Couse. The following are the changes made:

	Less than Carload.	Carload
Beeswax changed from	1st	
To	2d	4th
Honey in pails with wooden covers added, at same ratings as in kegs or barrels	2d	4th
Bees in hives changd from	3—1	3d minimum 20,000 lbs.
To	3—1	2d minimum 12,000 lbs.
Comb (sections, etc.) wood not now rated boxes or bundles, if knocked down flat or folded flat in bundles, crates or boxes	3d	5th

Who Should Keep Bees?

C. O. Jones, of Bedford, Quebec, goes into this question quite fully in the Family Herald and Weekly Star. His answer is, "None are so well adapted to it by the circumstances of their surroundings as the average farmer." He says further:

> The bees will require intelligent care and attention at a time when the farmer is busy with his other duties, but from personal experience I know that they will not interfere unduly with the other farm duties. For several years I ran a large farm and conducted an apiary from 150 to 200 colonies, and I always considered the apiary by far the most profitable department of the farm. We usually had a dairy of about 20 cows, and quite often the proceeds would exceed the income from the dairy. When you consider the amount of capital invested, and the difference in the labor required, you can not but arrive at the conclusion that bees are a profitable adjunct to the farm.
>
> I do not mean that any one should ever try to keep bees without a sufficient knowledge of them to care for them intelligently. Intelligent attention they must have.
>
> The labor required to carry on an apiary of say 100 or so colonies is not great. I would put it at one man's time for three months in good seasons. If the season is poor, less labor will be required, and much of this work may be done at a season when the farmer is not busy at his ordinary duties. During the swarming season and the honey-flow constant attention is imperative, but this does not last in this locality longer than 6 weeks. There is no branch of agriculture yielding larger returns for the outlay of capital and labor than bee-keeping.

All of what Mr. Jones says is true; but some points must be clearly borne in mind.

1st. The great majority of those who get bees on the farm, through the lack of attention, knowledge or time, make a miserable failure of keeping bees. They spend more money on hives and bees than would have been needed to supply the family with honey.

2d. "The swarming season and honey-flow," when "constant attention is imperative," begins in haying and ends in harvest! All good farmers know how much time they have for bees at that time, especially in the heat of the day when swarming takes place.

3d. In justice to his neighbor bee-keepers no man has the moral right to have neglected hives of bees about his place, on account of disease. Every one who owns bees should be able to detect foul brood, and should inspect his own bees at least once every summer. I know Mr. Jones is not advocating neglected bees, but the point is worth mentioning.

Now, how best can the farmer keep bees? If he has a son or daughter he can spare from the regular farm work, let them spend a season with a successful bee-keeper in order to get a little experience, then start them in bees at home.

Right along this line "E. G. H." says in the Farmers' Advocate:

> While the natural home of the bee is in the country, the science of apiculture is so entirely different from that of agriculture that the two can not be followed to any great extent conjointly without one or both suffering from neglect, more or less—usually more.

Box-Hive Bees Like a Chipmunk

Bees in a box-hive are like a chipmunk in a stone fence—you know where he is all right, but that's about as far as your knowledge or control of him goes.—E. G. H., in Farmers' Advocate.

Tireless Industry

> The honey-bees are a brilliant illustration of the blessings bestowed by labor. It is their ability and willingness to work which make them an example to every one.—American Cultivator.

Yes, but like most other farmers, they have an easy time all winter.

Mild Winter—Good Prospects for Honey

It has been a very mild winter here, and I think the bees are coming through in fine shape. The prospect is good for honey if we only get the right kind of weather.

I wish the American Bee Journal all the success it deserves for the help it gives to bee-keepers.

Clarksburg, Ont., March 7. E. KNOLL.

Truth About Honey

> Owing to the oft-repeated misstatements about adulterated honey and manufactured comb honey, in the newspapers, the Honey-Producers' League of Chicago, Ill., have published the following truths. The idea is an excellent one, and both dealers and bee-keepers should unite in an attempt to correct this prevalent and erroneous idea.—Toronto Mail and Empire.

This is followed by a statement proving falsity of the comb-honey canard.

White Honey in Dirty Boxes—Handling Bees in Cold Weather—Ripening Honey in Open Vessels

> 1. It is poor economy to have clean, white honey stored in old, dirty boxes.
>
> 2. Handling or disturbing bees in cold weather is injurious and should be avoided.
>
> 3. Honey will ripen itself if left exposed to the open air in almost any kind of open vessels.—Mail and Empire.

Nos. 1 and 2 are good, but No. 3 is directly contrary to experience in our climate, where the air is usually more or less damp. Pity such a statement should go out to the public. The surface of a tank of honey exposed for any number of days or weeks becomes thin like water from the moisture it absorbs from the surrounding air. Not only that, but the delicate aroma, and even parts of the flavor, passes off and is lost by long exposure.

The hive is the place, and only right place, for honey to be ripened. Then it should be sealed up in the shipping packages as soon as extracted.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

Use Honey Instead of Molasses

One of the most important questions that confront the woman who is looking after the best interests of her family is what shall be put upon the table three times a day. The food must be wholesome, and it must appeal to the palate. In these latter days of canned goods and preservatives one has a more or less uneasy feeling lest, in studying variety, there may be put upon the table that which shall sap the health, if not the life, of the dear ones of the family. Safety seems to lie in the direction of preparing the bill of fare from articles that may be confidently counted on as free from adulteration. Flour, salt, pepper, etc., we have heretofore used without any thought that there may be "death in the pot." But now we may no longer feel safe as to one of the articles in daily use.

Molasses is one of the first things used as a spread by the child as soon as it is weaned, and it is used in the same way by the grandmother in her dotage. Many families use large quantities of molasses in gingerbread, cookies, etc. It seems one of the indispensables. Alas, that it is no longer on the safe list. L. E. Walter, M. S., says in the April number of What to Eat:

> The use of formaldehyde is is so generally associated with milk that we would hardly expect to find it present in molasses, but it is nevertheless a fact that some of the finest grades of molasses put up by Southern firms during the past season contained very liberal quantities of formaldehyde. We know personally of three firms using formalin in their canned syrups and molasses, and have also heard reports of others making use of it. We recently examined two samples of molasses put up during the past summer. The syrup was contained in one-pound cans, and labeled as being thoroughly sterilized. Each of these samples was found to contain about 15 times as much of the preservative (formalin) as was actually necessary to insure the keeping qualities of the goods without any sterilization whatever.

What are we to do? Fortunately the answer is easy: Honey can be used to take the place of molasses in every case. All the preservative needed for honey has been furnished by the bees themselves, so there is no temptation to put in it formaldehyde or other baneful substance. As a spread it has no equal, and in cookery it can take the place of molasses to great advantage. The increased expense is not to be cosidered in a matter so nearly concerning the health of the household.

The reform can not begin any too soon. Let the watchword be "Honey; no more molasses."

The proper place for the reform to begin is in the homes of the bee-keeping sisters.

How is it in your home, sister? Is it honey or molasses in cookies? It's honey at our house—has been for years—and now the use of molasses for any purpose will be tabooed.

What do you all say?

Trouble Among the Bees

Mr. Jos. Hulbert gives your readers an interesting and rather exciting account of a time when, in his novitiate days, a simple and not very unusual mischance to a bee-keeper when manipulating hives caused "a lively time" to poor "Piggy" that chanced to live in a sty near at hand. A somewhat similar occurrence happened in my own apiary 3 or 4 years ago. A very heavy crate containing sealed frames of honey ready for removal from one of my hives was to come off, and the strong arms of him who calls me wife were kindly offered to lift it for me. I did the smoking (too much, I now fear), and, as I thought, got everything in readiness for the operation. But I had not prepared for brace-comb, which, in this case, had firmly fastened about 4 of the frames in a lower surplus chamber to those in the one being removed. My husband's powerful arms were equal to the task of lifting, but he said, "My word, this is heavy. You've got some honey here," when bump, bump, down fell first one frame, then another (the others I saved), and such a lively time as followed may be imagined. It was not "Piggy," it was "Hubby," for he had only his slippers on, and, moreover, was clad in thin, wide summer trousers, up which the bees crawled, stinging as they went! Again, readers, I ask you not to laugh. It was no laughing matter!

A moral there is to this little story. Husbands, don't go to help your bee-loving wives with feet clad only in slippers, or legs wrapt loosely in thin garments!—M. S., in the British Bee Journal.

Wants Bees and Honey

Dear Miss Wilson:—Will you please send a price-list of your honey and bees. I have never had bees and know very little as to price or kind. I have written to 3 or 4 different ones—all men. I would like to hear from you as soon as convenient.

Mrs. D. L. Cantine.

We have no price-list. We do not sell bees, our business being solely the production of comb honey, and at present we have no honey, as our crop was all sold early last fall. By "we," I mean Dr. Miller and myself. I have no apiary of my own, but for years have been Dr. Miller's assistant. He rears queens merely for his own use, and only occasionally sells one as a special favor.—[We would say further that there are a number of advertisements offering bees, queens and honey in this Journal almost every week. Why not patronize them?—Editor.]

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Don't Use Propolized Smoker-Fuel Late in Fall

I think fuel bedaubed with propolis or wax should not be used late in the fall. From all the region around it attracts bees whose honesty is too frail to bear temptation. Robbing is bad enough in the fall without helping it on any. Bee-hunters, you know, oft secure their first bees by burning comb. Page 209.

Beeswax—Origin, Composition, Etc.

Eight scales secreted at a time when bees are secreting wax. In my head I had it six. Thanks for the correction. Wouldn't it be more correct to say "excretions" rather than excrement of the young bee that renders the new comb dark? More comprehensive. Cell too evenly darkened throughout to be wholly the latter. So the three waxes in beeswax are not equal, or even sub-equal, in amount. Two big ingredients and one slight ingredient. And the slight ingredient melts easily. But 60 degrees Fahrenheit would keep it melted all the time except in quite cold weather—and it would be an oil instead of a wax. Wonder if the 60 isn't an error, else meant for Centigrade or something. Of course 96 percent of solid waxes *might* soak up 4 percent of oil, if that is really it—but we want to know, you know. But as usual Mr. Getaz gives us a meaty article—don't waste his space at merely parading words under the impression that it's literature we want. Page 211.

Value of Old Combs

C. P. Dadant is right in the main about old combs being good indefinitely. Apparently bees in winter pull out the cocoons and residual matters and nibble them up for food—and that's the main reason why bees winter so much better on old combs. But an occasional colony (I know not why) will plaster on more and more wax upon the cells in the lower part of the combs until they are nearly solid—not only unfit to rear young bees in, but unfit for holding anything. Page 212.

"Plum" Potatoes in Germany

Sad that Germany, which leads the entire world in the amount of potatoes raised, should make its city laborers eat those which are of the size of plums, and pay 45 cents a bushel for them. That's what Prof. Cook finds over there. 'Spects it's largely the zeal of our seedsmen in producing new varieties that has saved us from the like. Think of this if you are tempted to grumble at the endless lists of new and amazing potatoes—immediate result annoying, but net result excellent. We might easily have been eating potatoes of the size of plums and paying more for them than we do now. I can remember back to the time when they better deserved the name of "Munster *plums*" than at present. Howsomever, it would be better to eat Munster plums, and have them excellent in quality, than to wrestle down the big, long Merinos and the mammoth, round Pinkeyes that used to afflict us. Page 231.

Dadant Divisible Brood-Frame

Many thanks to C. P. Dadant for his picture of a sectional frame that will take apart and put together again. I have long wished to experiment with a hive taking double length frames, and the difficulty of putting two frames together halted me in my planning. Page 232.

A Queen-Rearing Kink

So a half-built comb of Italian brood will be pretty sure to have *some* queen-cells built on it, even in an alien hive of hybrids, if placed in the center. Then at the proper time the cells not Italian can be destroyed. Good kink to keep in memory. Page 236.

Where to Locate an Apiary

A. C. Allen thinks it's less windy on northern slopes (in warm weather) than on southern slopes. Guess he's right. His deduction is, Don't plant an apiary with a decided tilt to the south. But as winter winds come from the northwest and northeast, you should winter bees in the cellar if you choose a steep northern slope. Page 238.

A Long Honey-Comb

That continuous comb, nice and straight for 9½ feet, entitles E. S. Armstrong to wear a small feather in his crown—if he's an "honest Injun." Page 238.

Iron Rust in Honey Kills Bees

John W. Pharr's item on page 238 should not be forgotten. Iron rust in honey (enough to make it look decidedly rusty) kills bees right straight along. Still, in this case, it *might* possibly be that it was a mixture of salts of tin with the iron rust that did the greater share of the mischief.

Southern ✦ Beedom ✦

Conducted by Louis H. Scholl, New Braunfels, Tex.

"Brood-Periods" and Arrangement

A good many of "we'uns," as Mr. Hasty is wont to call "us," hardly stop to think about such things as a regular order in the brood-nest, the meaning of "brood-periods," and a score of other such things. If we would, there would no doubt be a larger number of *better* bee-keepers. To possess some knowledge on subjects of this kind seems, in the mind of many—quite too many of us—to be entirely unnecessary or useless, in making our returns of the apiary larger than they may be, in obtaining greater profits for the time and money invested. If, however, one possesses such knowledge, and knows how to apply it, he will soon outstrip his fellow men who must stumble along in the dark.

Every time I open a hive and look over the combs with brood I can not keep from noticing the arrangement of the brood circles, the number of brood-periods, etc. I can also understand better now *why* the practise of spreading brood, if not done with proper understanding, will be of little or no gain. Mr. Stachelhausen's article below will tell it.

Order and Development of the Brood

Very little attention has been given as yet to the fact that the queen lays the eggs in the cells in a certain order, and that this order is of importance to the welfare and full development of the colony, some bee-keepers going even so far as to assert that no order at all exists in this respect, and that the queen lays eggs arbitrarily in the hive. Everybody can prove by inspection that this is a great error. As the age of the eggs and of the brood can be recognized, we can easily see in every brood-nest what the queen's path was. In the center of the globular cluster, on the warmest place, egg-laying is commenced in early spring. Around the first egg laid by the queen 6 more are deposited in the adjoining cells. In this way, going around in circles, the queen lays eggs in cells next to those in which she had laid a short time before, till she reaches the limit of cells which are warmed up by the brood-bees.

Now the queen goes to the neighboring comb in the same space, and, commencing in the center again, lays in the same way in a patch of cells probably a little smaller than that in the first comb; then she goes back to the first comb and lays around the older brood a new circle of eggs. She commences now to lay in the cells on the other side of the first comb, which will be the center comb of the brood-nest. If in this comb, and in the next one eggs are laid, the queen will go back to the other space again, will add new circles, and will probably use the second comb from the center one.

In this way the queen moves from one comb to the other, always laying a new circle of eggs around the older brood, so that the brood-nest will have a globular form, in which the brood of different ages are arranged like so many shells.

A worker needs 21 days to develop from the egg to the adult form, and then it gnaws out of the cell. If we inspect a brood-nest 22 days after egg-laying has commenced, we shall see on the center comb the oldest capped brood, and some bees gnawing out; around the capped brood the oldest larvæ just ready to be capped over, then younger larvæ, and, outside in a wide circle, eggs. On the next comb we shall find the same order, but in the center the oldest brood is missing, and on the extreme outside comb probably only a small patch of eggs may be seen.

As the cells after 3 weeks are becoming empty, and the queen can commence egg-laying in the center again, we call this a "brood-period." The fact that the queen is sure to lay the eggs during the second and all other brood-periods only in those cells from which young bees have gnawed out, is sufficient to force her to lay the eggs orderly. If she deposited the eggs here and there, as some think she does, she would be forced to follow the same path in the second brood-period that she took in the first.

This egg-laying order in circles and in a globular form is inherited by the queen. Some think it can be explained by the influence of the heat in such a way that the queen always lays eggs in only the warmest cells. Heat has, no doubt, a great influence in all actions of the bees; but if we hive a swarm on empty combs we shall observe that this brood-order is kept more regular than in any other case; and at that time the temperature is high enough so that the queen can lay eggs anywhere in the hive, and sometimes even so high that the bees are forced to ventilate the hive.

Alteration of the Brood Order.

This order of the brood, as described above, is not always possible. There are different influences which may alter the appearance of the brood-nest:

1. The center of the brood-nest is, if regular, in the center of the middle comb; but this point may be altered by the heat of the sun warming up one side of the hive more than the other one, or by a neighboring colony if 2 colonies are set close together Then the center of the brood-nest is nearer this heated side of the hive; the brood-nest has a more semi-globular shape, and the eggs are deposited in semi-circles.

2. If we have a good honey-flow in early spring, when the brood-nest is yet small, this honey may be a hindrance to the regular enlargement of the brood-nest; but generally this honey is removed by the bees to give room for the brood. Nevertheless, during a very good honey-flow the honey sometimes keeps the brood-nest in a limited space, as I have observed many times here in Texas; but hereby some other influences are working in the same direction.

Of more influence is the pollen, if gathered in larger quantities than needed for the brood. The bees do not remove the pollen to other cells as they do the honey, and so the pollen disturbs the order of the brood-nest everywhere. If this pollen is used up while the queen is laying eggs near by, she will generally lay eggs in these now empty cells, too, and afterward we shall see some open brood among the capped. If the pollen in these cells is consumed when the surrounding brood is capped already, these cells will remain empty till the queen comes back to this place for laying eggs. The greatest disturbance to the brood-nest is caused by the pollen in the outside circles.

Just opposite the outer brood-combs we shall observe a patch of pollen as large, and of the same form as the brood-patch on the opposite comb. If the brood-nest be enlarged, and this pollen be not consumed, the queen will be forced to lay eggs in the outer side of this comb before she can lay on the inner side now occupied by pollen. Ten days afterward we may find capped brood on the outer side of this comb, and young brood on the inner side. If this comb is reversed now, the regular order is generally secured again.

3. We know that the number of eggs which the queen lays daily is gradually getting larger from early spring till swarming time; consequently the brood-nest of every following brood-period must be larger than the former one; nevertheless this brood nest is commenced in the center of the former one, and should find room in it. This contradiction needs a solution. If the queen commences to lay in the center, she will, in her circling path, soon meet capped brood; then she will move on the same comb, over the brood, to the surface of the brood-nest till she will meet empty cells in which she will lay eggs. We call a brood-nest in this condition a "brood-nest of two systems," because in the center comb, for instance, we shall find brood of the same age not together in one place, as in the regular brood-nest, but in two separate circles. The bees avoid this condition as much as possible, as the queen lays a larger number of eggs in a wide circle on the outer surface of the globular brood-nest before she commences to lay in the center again. While the cells would be empty in 21 days, the queen does not commence egg-laying in the center before 24 days.

4. Another disturbance of the brood-nest is caused by too narrow or too shallow frames. If the brood reaches the top and bottom (or the ends) of the frame in the third brood-period, the circles can be maintained no more, and the eggs are laid by the queen on the sides (or on the bottom) only; while with two shallow frames the brood of this age is entirely wanting on top and bottom of this comb. This squeezing out of the brood takes place on the center comb at first, and, in extreme cases, on the adjoining combs, and on every brood-comb at last.

5. The greatest of all disturbances is when the bee-keeper changes frames from one hive to the other, inserts empty comb between brood-combs, or changes the place of them without any attention to this natural brood order.

No doubt the bee has a wonderful power of accommodation; and as soon as this disorder is created the bees try to restore order again in this mixed-up business by keeping some cells empty till the neighboring brood has gnawed out. In the meantime the queen is wandering around, hunting for a larger patch of empty cells, thus losing time and eggs. At best the bee-keeper has enlarged the brood-nest, but no more cells are occupied by brood than in a regular brood-nest; so he has gained nothing in fact; but the large brood-nest needs more bees and more fuel, to be kept warm.

Sometimes the queen may find a comb with capped brood, where she expects empty cells. This may disturb her so much that the brood-nest on the other side of this comb will be entirely neglected. One thing is sure—in these disturbed brood-nests the queen will not lay as many eggs as she would in a natural brood-nest. The bee-keepers who manipulate their brood-frames in early spring are those who doubt that an average queen can lay more than 2000 eggs daily, while, in fact, every queen worth keeping at all should be able to lay 4000 eggs daily during the height of the season, in a natural brood-nest, if the conditions are favorable.

In the last brood-period before swarming time it is of less disadvantage to disturb the order of the brood, and now is the time to manipulate the brood-combs if necessary. I will give a few practical hints:

If the queen is in the center, and a new brood-period is beginning, empty combs can be placed next to the center comb on both sides, without disturbing the order.

If the queen is at the end of the brood-period, on the surface of the brood-nest, empty combs should be added between the last brood-comb and the pollen-comb. Generally empty combs must be added just next to the comb where the queen is in the center to lay eggs. If another brood-comb be added, it should be done in this way, so that brood of the same age shall be opposite the old and the new frames. Cibolo, Tex.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Bees Superseding Queens in Early Spring

What makes bees supersede their queens at this time of the year? I examined my bees and found one queen in front of the entrance. There were no other bees robbing them. West Virginia.

Answer.—The same thing makes bees supersede a queen in spring that makes them supersede one at any other time, namely, the fact that she has become unfit for good service. Generally that happens when she has lived two years or more; sometimes not till she is 4 years old; but sometimes it occurs when the queen has lived a very short time. Indeed, in some cases it can not be said that the queen has *become* unfit for good service; she is so poor that she never was good; and in such a case she may be superseded when she is only a few weeks, or even a few days old. Years ago I had a queen so worthless that she never laid more than one egg that I could discover, and that was in a queen-cell with the evident intent of superseding.

The great bulk of superseding is done at or near the close of the honey harvest, when one might naturally expect the queen to be worn out by the arduous task of providing so many thousands of eggs for the season. Only occasionally does superseding take place in the spring; and then it behooves the bee-keeper to be on the lookout, for the great probability is that a queen reared so very early in the season will be worthless.

T-Supers and Sections

How are the T-tins supported in your super? What are the dimensions of your sections? I use a tin support in the supers, but they are stationary. I also use a plain section and fences. I think I like your super and sections best. It does away with the expense of the fence, and saves labor. Michigan.

Answer.—I use the sections that are most in use: 2 bee-way sections 4¼x4¼x1⅞. The supports for T-tins in most of my supers are pieces of sheet-iron 1¼x1 inch. They are fastened by two wire nails driven within ¼ inch or less of the inside edge of the super. That, you will see, allows a projection of ⅜ of an inch to support the T-tins. A few of the latest have wire staples for supports. The staples are of the square form, about an inch wide, are driven in about a quarter of an inch from the inner edge of the super (of course they are driven into the bottom of the super). They are driven in deep enough so that when bent over at right angles there will be a support of ¼ inch. I'm not sure which are better, but perhaps the staples.

I think you will like the T-tins loose better than fastened. It is much easier with the loose tins to fill sections into the super and to take them out. It is ten times as easy to clean the loose tins than the fast ones. The loose ones can be cleaned by the hundred by dumping them in a kettle of boiling lye, and the fast ones must be scraped.

Transferring Bees

I have a colony of bees in a box 19x19x26 inches. I would like to transfer them into a hive. "A B C of Bee-Culture," page 353, says that fruit-bloom is the best time. If I should happen to smear and kill the queen when transferring, will the bees rear another? What do you consider best for me to do? Wisconsin.

Answer.—If the queen should be killed, the bees will have plenty of young brood from which to rear another. But there isn't very much danger of your killing her.

If the colony would swarm at the usual time of swarming, it would be better for you to wait for that, hiving the swarm in a movable-frame hive, and then transferring 3 weeks later. But in a box holding more than 4 bushels there is no certainty that they will swarm at all. If the box is in such shape that you can cut it down to about one-fourth of its size without disturbing any of the combs that contain brood, that may be your best course. Otherwise transfer in fruit-bloom.

Thin Bottom-Boards—Hive-Cover for Comb Honey

1. Are thin bottom-boards (⅜ inch) considered as good as thick ones (⅞) for wintering bees outdoors?

2. What cover do you consider best for the production of comb honey, where a part of the hives must be in the sun? I would like a description of the ones you use. Pennsylvania.

Answers.—1. So far as the bees are concerned, yes. Of course there's more danger of breakage when so thin.

2. Almost any cover will do in the sun, if some kind of protection

is over them. Any sort of boards or shingles will do for this, or you may put on top an armful of long grass weighted down with two or three sticks of firewood. Neater and more convenient is a cover with an air-space; that is, a double cover.

My oldest covers are plain board covers, just one thickness of ⅞ lumber. The next are made of two layers of ⅜ stuff, the grain of the upper layer running lengthwise, and the grain of the lower crosswise. A dead-air space of ⅜ of an inch is between the two layers. This dead-air space makes it cooler in the hot sun, and warmer when the day is cold. The cover is covered with tin, painted white. The latest covers I have are made the same way, only covered with zinc, unpainted. They would be still better painted white when in the sun. These are satisfactory covers, only too expensive—about 30 cents each. I have two or three covers covered with Neponset paper, and painted, that have been in use several years, and seem to last well. If I were not so crowded all the time, I think I should make a few covers after Arthur C. Miller's plan; covered with cloth pasted like trunk-covers, and painted. It might be worth while, also, to try rubberoid or some form of roofing.

Reports and Experiences

Good Year for Bees.

Last year was a very good one for bees in this part of the country, but we do not have much of anything for them to gather honey from except white clover; and in the fall, white asters. They do not store any surplus honey in the fall, but they do gather enough for winter stores. A. Cutlip.
Frametown, W. V.

Swarming Too Much.

My bees are just filling their hives with nice honey, but are swarming too much. It keeps me busy making hives for them. R. L. McColley.,
Sorrento, Fla., March 20.

Keeps Bees and Poultry.

The Bee Journal is an old friend of mine. I have 12 colonies of bees, and I think they will winter all right. I have only a small farm of 15 acres, and keep poultry. I have it very easy and nice, as my wife and I are the only ones in the family. I love bees very much. I had about 1,000 pounds of honey last year. Wm. Schultz.
Zeeland, Mich., March 6.

Bees Short of Stores—National Report.

Many bees in this section are short of stores, and will receive but little attention from their owners, as most of the bee-keepers are farmers who keep a few bees to produce their honey at home. There was but very little honey gathered after July 15, 1905, and by the beginning of winter the bees had eaten much of their stores and went into winter very short of feed. This has been an extra warm winter, and the bees have eaten more than usual. On February 21 my bees were flying like they do in spring. I opened the lightest hives and found some of them just on the verge of starvation, with the hives full of bees and brood-rearing nicely started. I fed them by putting combs of honey in the hives, that I had saved from last summer for that purpose, thanks to Dr. Miller's advice.

Our fine weather and promise of an early spring changed yesterday morning when it began to snow, and this evening there is somewhere between 8 and 12 inches of snow on the ground. So we may have some winter yet, although it has not turned very cold yet, but it is still snowing.

I have just received my copy of the Annual Report of the National Bee-Keepers' Association, and am reading it with much interest. I wish we could have it in a more substantial binding, for it deserves a place in every bee-keepers' library. John Stotts.
Dallas, Iowa, March 15.

Wintered Well—Fair Prospects.

The year 1905 was not a very good one for bees in the central part of Nebraska. I started with 11 colonies in the spring, increased to 18, lost two prime swarms, and got somewhat over 300 pounds of section-honey.

Bees so far have wintered fine on the summer stands, packed in oat-chaff. March so far has been a stormy month, with plenty of snow and rain. The prospects are fair, and the farmers around me intend putting in largely of alfalfa seed this spring. Sweet clover is spreading, but not fast enough to suit me. Henry Hansen.
Ashton, Neb., March 26.

Wintered Nicely—Poor Season in 1905.

I put 51 colonies into the cellar last fall, and they are all alive yet, except 1. I am waiting for a nice day to put them out. All bees wintered nicely here this winter, even those that were left outdoors, that had honey enough. I am running for comb honey, and got some 10-frame hives last spring, but I think I made a mistake. I will try them one more summer, and if I do not get better results I will make them all smaller. The 8-frame I think is the hive for comb-honey in this locality. I had 29 colonies last spring and got 1,200 pounds of comb honey. I let them swarm once, and then cut out all the queen-cells but one 6 days after they swarmed. Last year was a bad one for bees here. A. H. Timmerman.
Prior Lake, Minn., March 28.

Bees Wintering Well.

I am wintering 18 colonies of bees, all from what I shipped into this country last year. All are doing well so far. Some are in the cellar, some in chaff hives, and some on the summer stands. I sold what honey I had last fall at 30 cents per pound.
I. M. Beatty.
Lewistown, Mont., March 12.

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OTISVILLE, PA., Jan. 18, 1904.
Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.
Mention Bee Journal when writing.

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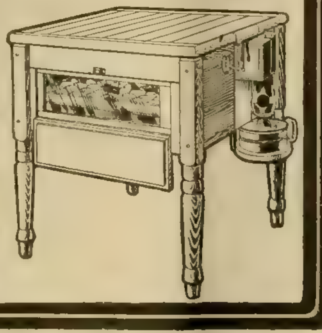

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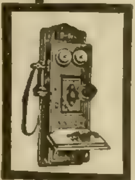
CONVENTION NOTICE.

Western Illinois—The semi-annual meeting of the Western Illinois Bee-Keepers' Association will be held in the County Court Room, in Galesburg, on Wednesday, May 16, commencing at 9 a.m. and lasting all day. Messrs. C. P. Dadant and J. Q. Smith have promised to be present and contribute to the success of the meeting. Our meetings have been good, but we hope to make this one better. Galesburg has good train-service, and all bee-keepers in this part of the State should not fail to come. Come, and bring your wives with you.

E. D. WOODS, Sec.
Galesburg, Ill.

How to Organize
A Farmers' Telephone Co.



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Acting on the theory that "testing is proving" we will send any responsible person, on certain very easy conditions, one of our three h. p. gas or gasoline engines on **10 days test trial.**

This engine is **no experiment,** but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

Our igniter and mixer are of the most simple and reliable character. The gasoline is always properly vaporized and the igniter point never comes together unless a spark is required.

The fly ball type of governor is used, which automatically controls the exhaust, igniter and the gasoline; it also allows the speed to be changed from 100 to 600 revolutions per minute while the engine is in motion—**a very superior feature.**

LION GAS OR GASOLINE ENGINES
are simple in construction and
EASY TO OPERATE

They are used for all purposes where power is required for operating private electric-lighting plants, small factories, printing offices; farm machinery, such as cream separators, feed-grinders, corn shellers, wood-sawing machines, etc., and for a thousand and one other purposes.

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Lyons, Mich.

Gentlemen: I am about to purchase a gas or gasoline engine for ______ purposes and wish you to send me full particulars about your approval offer as advertised in American Bee Journal. Yours very truly,

Name ______
Town ______
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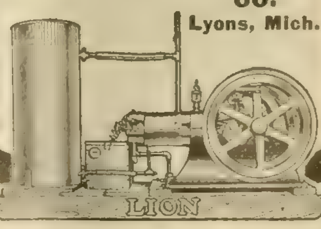
When writing, please **state definitely** for what purpose you wish to use this engine and whether gas or gasoline is to be used for fuel. **This information is very important to us.** Please remember we send the engine, **not the engine agent.**

LYONS ENGINE CO.
Lyons, Mich.



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Is made of the best grade of White Pine, accurately cut, so it will go together without the use of tools, except a hammer.

Such is the kind of Hives we make, and such is the kind you get when you buy from us.

"It is a cinch" that we make lower prices than you can get from any dealer, as you save the middleman's profit when you buy direct from the manufacturer.

We are Manufacturers, and sell direct to the consumer.

Send us a list of your wants, and let us make you prices.

We guarantee everything we sell to be satisfactory, or refund the money.

We have large stocks of Dovetailed Hives, Sections, Shipping-Cases, Foundation, Veils, Smokers, etc., on hand, **and can ship promptly.**

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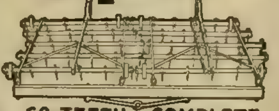

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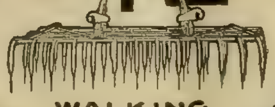

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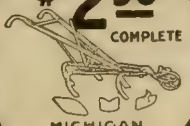
Here are just a few Farm Tools taken from our immense stock to show you, in a practical way, how you can save money by buying your supplies direct and cut out the middlemen's profits. We manufacture every tool shown here, that's why we can sell you a 60-tooth Adjustable Spike Tooth Harrow, complete in every way, for **$7.60.** ¶ A Walking Weeder, 7½ ft. wide—a machine for surface cultivation that every modern farmer needs—complete, for **$4.46.** You need one. ¶ A Michigan Cultivator—a first-class cultivator, well-made, for **$2.98.** ¶ A 14-tooth Harrow—a complete tool and combines a field cultivator, garden harrow and pulverizer—just what you need for the garden when the big cultivator is busy in the field, complete, for **$2.75.** ¶ A 15-tooth, 2-section, Low Down Harrow—the strongest built machine of its kind made, complete, for **$9.45** ¶ A steel rim, 2-section, Land Roller, made in a thorough manner of best materials, will give give you good service and satisfaction, for **$15.30.** You cannot buy these tools from your home merchant for any where near these prices. **We pay the freight.** Order any tool in this advertisement on our positive guarantee that it will give you entire satisfaction, and be the best bargain you ever saw for the price; if it isn't, ship it back **at our expense,** and we will refund your money. We will also send with your order **free,** our large 1,000 page catalog of everything you need on the farm and in your home at prices that leave a profit in your pocket—we sell "everything for everybody cheaper than anybody." A trial order will be but the beginning. Write today.



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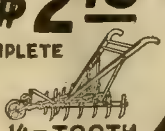

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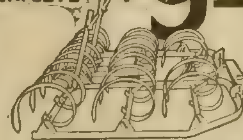

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Co-Operative Society of the National Supply Co.,
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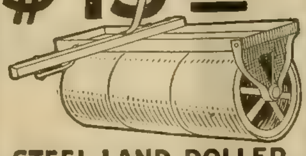

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UNITED STATES OF AMERICA

28 Years a Queen-Breeder

Have shipped Queens to nearly all countries on the globe.

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We can furnish Nuclei and full colonies of Italian Bees (f.o.b. 100 miles west of Chicago by express) at these prices:

FULL COLONIES in 8-frame hives, $5.50 each; in lots of 5 or more at one time, $5.25 each. Full colonies in 10-frame hives, $6 each; in lots of 5 or more at one time, $5.75 each.

Nuclei (3 frame) with Tested Queen, $3.25 each; in lots of 5 or more at one time, $3 each. (Nuclei ready for delivery about May 10; Full Colonies any time now.) Orders filled in rotation. Address,

GEORGE W. YORK & CO.
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50 Colonies of Italian and Carniolan Bees in 8-frame hives, all nearly new and all in good condition. One colony, $5.50; from 5 to 10 colonies, $5 each. WM. J. HEALY,
16A5t MINERAL POINT, WISCONSIN.

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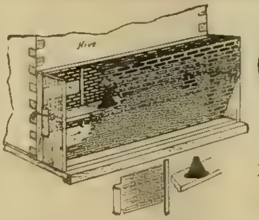

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Queen-Trap

No Climbing.
No Absconding.
Order to-day.

Prices, by mail, 70c
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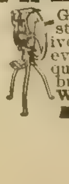

It's a very easy, simple operation with a CROWN Bone Cutter. Green bone makes eggs, and stimulates the hen's productive organs. Cut bone fresh every day. The Crown does it quickly with no bother or muss. 25 years building cutters. Write for free catalog.
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BEES, QUEENS, AND NUCLEi

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in April:

One Untested Queen	$1.10
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" Select Tested Queen	2 20
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1-comb nucleus (no queen)	1.50
2 " " "	2 60
3 " " "	3.20

Untested in May; all others ready now from last season's rearing. Safe arrival guaranteed.

For prices on Caucasians and larger quantities, and description of each grade of queens, send for free catalog. **J. L. STRONG**

16Atf 204 E. Logan St., Clarinda, Iowa.

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CAUCASIAN QUEENS!

Caucasian Bees are very gentle. They are easy to handle and are, therefore, suited to beginners, timid bee-keepers and to those who keep bees in town. If you want to try this race, or if you want to improve the stock of your Italian Bees, write to

ROBERT B. McCAIN,

2Atf YORKVILLE, ILL. R. F. D.

Bees, Queens and Bee-Supplies

We manufacture standard dovetailed bee-hives and supplies, cheaper than you ever bought before. Our Queens and Bees stand at the head in quality. Untested, 75c each; $4.25 for 6, or $8 per doz. Tested, $1.25 each; $12 per doz. Select Tested, $1.50. Special prices to dealers in large lots on application. State Agents for **Dittmer's Foundation.** Catalog free.

THE BEE & HONEY COMPANY
(WILL ATCHLEY, Prop.)
Beeville, Bee Co., Texas.

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Send to
JOHN W. PHARR
Berclair, Tex.

He will furnish at the same prices as last year: Tested, $1; Untested, 75c; 5 for $3.25; 10 for $6; 15 for $8.25; 25 for $12.50; 100 for $45. He breeds Goldens, Carniolans, and 3-Band Italians. Also 1, 2, and 3 frame Nuclei and full colonies. Prices given on application. Pharr pays the freight, and guarantees satisfaction on all Queens. To do justice and judgment is more acceptable with the Lord than sacrifice.—(Prov. 3:21.) 5Atf

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LONG-TONGUES AND GOLDEN QUEENS

Select Untested, $1: 6 for $5; 12 for $9. Tested, $1.50; 6 for $8. Best Breeders, $3.50. Safe arrival guaranteed. **W. A. RAILS,**

7D6t ORANGE, CALIF.

QUEENS

Best 3-band Italian—1 Untested Queen, 75c; 6 for $4; 12 for $7.25. One 2-frame Nucleus with Queen, $2.25; 10 in one bunch, $17.50.

LUTHER PRESSWOOD,

6E7t RELIANCE, TENN.

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Italians—Caucasians—Carniolans

Line bred from individual types for color, gentleness and honey-producing. A scientific queen-rearing plant; standard prices and fair dealing. Our "**Pure Gold**" strain of Italians are unsurpassed for gentleness and fertility. We offer best facilities for prompt shipment to the Middle West. Send for catalog. ROSE LAWN APIARIES,

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Root's Goods at Root's Prices

Everything used by Bee-Keepers.
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Low Freight Rates. **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

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513-515 Massachusetts Ave., INDIANAPOLIS, IND.

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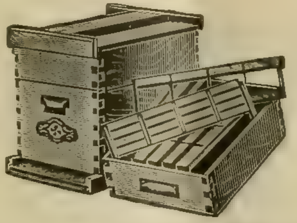

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POULTRY SUPPLIES

LEWIS' BEEWARE

is so well known it needs no introduction. **2 percent Discount on Bee-Supplies for March.**

Beeswax wanted—28c cash, 30c when taking bee-supplies in exchange.

Extracted Honey For Sale. Prices on application. Sample, 10 cents.

Cornell Incubators, Peep O' Day Brooders and Cornell Chick Machinery ARE UNEXCELLED

The 1906 Cornell Incubator is superior to anything heretofore put on the market.

New 1906 Catalog for either line Free.

If you want orders filled PROMPTLY AT FACTORY PRICES, send your order to

YORK HONEY AND BEE SUPPLY CO. (Not Inc.)

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141 Ontario Street, - CHICAGO, ILL.

Long Distance 'Phone, North 1559.

ITALIAN BEES in modern hives for sale, f.o.b. Chicago.

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LEWIS' FAMOUS BEE-HIVES AND SECTIONS, ROOT'S SMOKERS AND EXTRACTORS, DADANT'S COMB FOUNDATION, ETC., QUEEN-BEES AND NUCLEI IN SEASON. Large and complete stock, prompt service. **We meet all competition who will furnish first-class goods.**

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We carry a complete stock of "Mandy Lee" Incubators and Brooders. Don't fail to investigate these machines. The more you know about incubation, the more you will like the "Mandy Lee" Incubator. The "Mandy Lee Brooder" is a complete old hen, all but the "cluck." Our free incubator catalog describes them.

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My Catalog for 1906 is now ready for distribution. I am the Northern Headquarters for **Adel Queens and Bees**, and good, honest Bee-Keepers' Supplies. If you have not received my Catalog, write for it. Address,

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Send for our 1906 Free Illustrated Catalog. Good Goods, Low Prices and Prompt Shipments are what you get if you send your orders to—

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Most bee-keepers have been convinced that when time and material are figured, it pays to buy hives, and the **best** is not only as cheap, but—

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The Elgin Hive excels in many ways—no nails to drive—no dovetails—can be taken apart at any time.

Many **are** using them. You **should** be. Write to-day for catalog, etc.

We sell **full line of SUPPLIES.**

The National Supply Co.
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We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

LOWEST PRICES

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Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS now.** Write to-day. Address,

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will hatch as many chicks as several ordinary incubators. Simple, effective, sure. Free catalog tells how. Write for it today.
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Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

ADRIAN GETAZ,
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☞ J. G. Goodner, of this State, writes me that he "prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

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IN 60-POUND CANS

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Address,

YORK HONEY AND BEE SUPPLY CO.
141-143 Ontario St., CHICAGO, ILL.

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We can take live young men who really want to become expert bee-keepers, give them employment in our apiaries, and teach them as much as they can learn in one season. In applying state age, height, weight, and previous occupation. None but those of good moral habits need apply. MORLEY PETTIT,
13A4t VILLA NOVA, ONTARIO, CANADA.

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Lowest Prices

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OF ALL KINDS

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Our large, illustrated Price-List of Supplies free on application. Address,

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Complete Stock for 1906 now on hand.

FREIGHT-RATES FROM **CINCINNATI**
are the LOWEST, ESPECIALLY for the SOUTH
as 'most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will **SAVE MONEY BUYING FROM ME.**
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI OHIO
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, April 7.—The best grades of comb honey are scarce and sell at 15c per pound; off lots are of uncertain value, ranging in price from 10@14c. Extracted meets with fair sale at 6½@7c for white, and 6@6½c for amber, with off flavors about 1c per pound less. Beeswax sells at 30c on arrival.

R. A. BURNETT & Co.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c: amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.

GRIGGS BROS.

INDIANAPOLIS, March 24—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.

WALTER S. POUDER.

PHILADELPHIA, April 10.—The season is now well advanced. There is very little call for comb honey. Almost all the choice grades have been cleaned up. The prices range a little firmer for what small quantities of the fancy grades are still held over. The other grades of comb honey are still a drug on the market. We quote: Fancy white comb, 16@17c; amber, 12@13c; dark, 10@11c. Extracted, fancy white, 7@8c; amber, 6@7c. Beeswax, 28c.

We are producers of honey and do not handle on commission.

WM. A. SELSER.

NEW YORK, March 19.—Demand for comb honey is fair, especially for the better grades, and fancy white is selling at from 14@15c; No. 1, 13c; light amber, 11@12c; no more demand for dark comb honey. Extracted is in good demand, mostly California, at unchanged prices. Beeswax is firm at from 29@31c, according to quality.

HILDRETH & SEGELKEN.

CINCINNATI, April 4.—There is no material change in the honey market since our last report. The demand does not come up to expectations, which, in all probability, is due to the inclement weather of the past month. We continue to quote amber in barrels at 5¼@6½c. Fancy white in crates of two 60-lb. cans at 6½@8½c. Choice yellow beeswax 30c. delivered here.

THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.

THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, March 16—The supply of comb honey is not very large. Demand is light, best 24 section white selling at 3.25 per case, amber at 25@50c per case less. Extracted, white, 6½c per pound; amber, 6c. Beeswax, 25@30c. We look for an increased demand in the near future.

C. C. CLEMONS & Co.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fency white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.

C. H. W. WEBER.

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When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

Cash for Beeswax
Highest market price paid promptly all the time for good wax.
Frank G. Clark, 147 E. Kinzie St. Chicago, Ill.

FOR SALE
Until further notice, finest quality new crop California Water-White White Sage and Light Amber **HONEY** in 60-lb. tins, 2 in a case; new cans and new cases. Write for prices and samples, and state quantity you want.
HILDRETH & SEGELKEN
265 & 267 Greenwich Street, NEW YORK, N.Y.
34Atf Please mention the Bee Journal.

FOR SALE
20 cases of comb honey—mostly white clover, in non-drip cases. **LOUIS WERNER,**
15A3t EDWARDSVILLE, ILL.

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

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FANCY WHITE EXTRACTED HONEY
CRATES 2-60 LB. CANS; 8c
TWO OR MORE CRATES; 7¾
LARGER LOTS; WRITE FOR SPECIAL PRICES. ALL F. O. B. CINCINNATI. CASH WITH ORDER. SAMPLES 10c. TO PAY POSTAGE.
THE FRED W. MUTH CO.
No. 51 WALNUT STREET, CINCINNATI, OHIO.
SEND FOR CATALOG OF BEE SUPPLIES WITH SPECIAL DISCOUNT.

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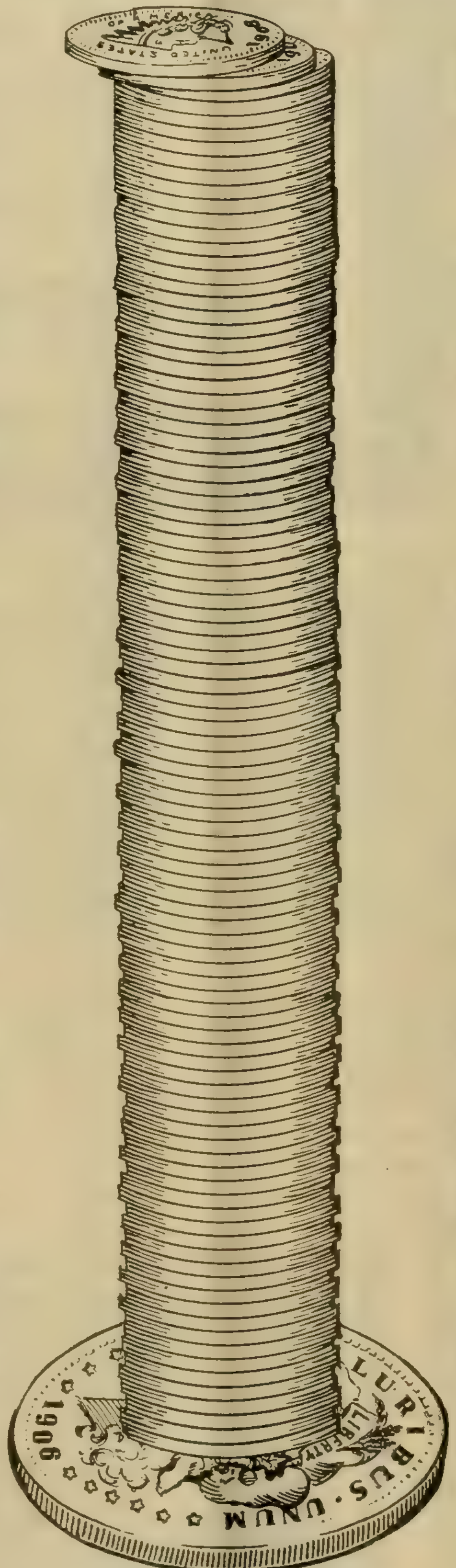
One Hundred Cents on the Dollar

If You buy Lewis Beeware



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Received my Sections in fine shape, and am well pleased with them. They are the best Sections I ever put together.
Arthur Stampe. Paullina, Iowa.

I want to say that I consider your make of Sections the nearest perfect I have ever had. I have folded packages of 500 without breaking one, and I can not say that of others I have used.
Geo. Brown. Deerfield, Iowa.

During the last four years I have bought 10,000 Sections from three other firms. Before I had used yours for several years, but have decided after a thorough trial that yours are the best and most perfect Sections in every way that I have ever used.
David Foote. Riceville, Iowa.

I used your supplies exclusively for almost fourteen years, especially the Sections, and I don't want any other kind.
C. H. Harlan. Mora, Minn.

I have received those Sections in good shape, and I am well pleased with same. They are all right in every way. I shall recommend your bee-supplies to other bee-keepers. I think you make better goods than any other firm in the world. Accept my thanks.
Geo. B. McDaniels. Grand View, Iowa.

HIVES

We note that the Lewis Goods for the season of 1906 are finer than ever. Hives and Hive-parts are without any knots. In fact, they are so nice that we are very much surprised, as we supposed that as lumber gets scarcer and higher necessarily poorer grades of lumber would have to be used. We are receiving many compliments on the Lewis Goods we are shipping out.
A. G. Woodman Co. Grand Rapids, Mich.

About two months ago I bought 25 of your 8-frame Dovetailed Hives, and I put these together without losing a single piece. I find these Hives to be better than any other I have ever used. Although I have a gas engine and good tools, I can buy your Hives cheaper and more accurately made.
E. K. Meredith. Batavia, Ill.

Your Hives look as if they had been sandpapered after they are nailed up. I have just finished nailing up 40 2-story hives, and they are as nice as could be.
L. B. Smith. Rescue, Tex.

I received the 50 Bee-Hives, and I can say that they are the very nicest, finest and best Hives I have ever seen.
Tofield Lehman. Elgin, Iowa.

The Hives are a model of perfection both as to material and workmanship. It is a pleasure to have material to go together as yours does.
E. W. Lyles. Charlotte, N. C.

I received the Hives I ordered in good condition. Same are fine hives. They look like better lumber than any I have bought before; also fit better than any Hives I have ever put together.
Harry West. Morrison, Ill.

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The Frames you sent me were duly received, and they are the best, finest and nicest Frames I have ever had.
H. P. Willson. Bathgate, N. D.

Received my 100 Brood-Frames in fine shape, and I am well pleased with them. They are the best I have ever put together.
D. S. Haag. Rock City, Ill.

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D. M. Laudenslayer. Mackeyville, Pa.

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I would like to thank you for your prompt way of doing business in such a season as this when every one is excited.
E. W. Coe. Aug., 1903, Clarence, Iowa.

I wish to acknowledge receipt of the goods ordered from you, and thank you for your promptness in sending them.
Claude L. Madison. Alden, Ill.

RESPONSIBILITY

Remembering how well you did with me over 22 years ago on some Hives I bought, I hope we may come together again on a small deal.
Leopold Moller. Fremont, Nebr.

I thank you for thirty years of friendly dealings.
C. Theilmann. Theilman, Minn.

Don't worry about us not handling your Goods. I have used and sold your goods for 15 years, and consider them the finest Beeware made.
J. E. Enyart & Son. McFall, Mo.

I am well pleased with your way of doing business, and satisfied with all Goods received from your factory. Can say that they are much better than I can get any place else.
J. F. Nolte. Redfield, Iowa.

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H. Luke. Burlington. Wis.

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AMERICAN BEE JOURNAL

45th Year CHICAGO, ILL., APRIL 26, 1905 No. 17

Minnesota Bee-Supply Co., or John Doll and Sons

(See page 362.)

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PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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Contents of this Number

Illustrations—

Doll and Sons, and Interior Factory Views 1st Page
Queen-Rearing Nucleus Hive of J. L. Strong.. 363

Editorial Notes and Comments—

Alsike and Sweet Clover in Canada..... 361
Giving Empty Stories Below Queen-Excluders 361
Honey and Herb-Tea for Bee-Paralysis..... 361
Hurrying Up Queen-Rearing..... 361
Ohio Foul-Brood Law—One Cent Per Colony Tax..... 361

Miscellaneous News Items—

Bees in Spring (Poem)..... 363
Doll (John) and Sons..... 362
Notes from the National..... 362

Contributed Special Articles—

Feeding Syrup in Winter..... 363
Forming Nuclei in Twin-Hives..... 363
Internal Hive Temperature..... 363
Management for Big Yields of Honey..... 364
Methods of Rearing Queen-Bees..... 363

Convention Proceedings—

Bees Conversing..... 363
Comb and Extrated Honey in Same Hive..... 363
Crossness in Bees..... 363
Fifty Years from Now—A Prophecy..... 363
Migratory Bee-Keeping..... 363
Northern Michigan Convention Report..... 363
Reduction of Freight-Rates..... 363
Shaking Queen-Cells..... 363
Superseding Queens..... 363
Wire-Cloth Separators..... 366
Wiring Frames..... 353

Southern Beedom—

Improvement of Our Bees..... 366
National Association to Meet in Texas..... 366

Our Sister Bee-Keepers—

Clipping Queens..... 367
Danger of Bees Starving—Short of Stores..... 367
Sister's Report..... 367

Canadian Beedom—

Bees Moving Eggs..... 368
Followers in Brood-Chambers..... 367
Gentler Bees Hardly Necessary..... 368
Items of Interest..... 367
Metal-Spaced Hoffman Frames..... 368
Northern and Southern "Longfellows"..... 368
Reports On Wintering Wanted..... 367
Spring Management of Bees..... 368
Wintered Fairly Well..... 368

Mr. Hasty's Afterthoughts—

Bees that are Slow to Uncap Stores..... 368
Finding Queens..... 368
Introducing Queens..... 369
Spring Dwindling..... 368
Sweet Clovers, Cow-peas and Jap. Buckwheat. 369
"Untested" and "Select Untested" Queens... 368
What Mice Like and Dislike in Food..... 368

Dr. Miller's Question-Box—

Comb-Foundation Treatment for Swarms..... 369
Finding Queens..... 369
Foul Brood..... 370
Honey from Wild Mustard or Turnip and Fruit-Bloom..... 369
Increase..... 369
Knowing Different Combs..... 369
Largest Honey Crop..... 369
Making Increase With Home-Made or Box Hives..... 370
Painting Hives..... 369
Planting Willow..... 369
Preparing Bees for Winter..... 369
Putting a Weak Colony Over a Strong One..... 369
Using Combs with Honey from Dead Colonies 370
When to Use the Queen-Trap..... 369

Reports and Experiences—

Brood-Rearing in Winter..... 370
Entrance at Top of Brood-Chamber..... 370
Favors the Full-Weight Section..... 370
High or Low Hive-Entrance..... 370
Packing Bees for Winter..... 371
Rendering Beeswax in a Small Way..... 370
Suit to Protect Against Bees..... 371

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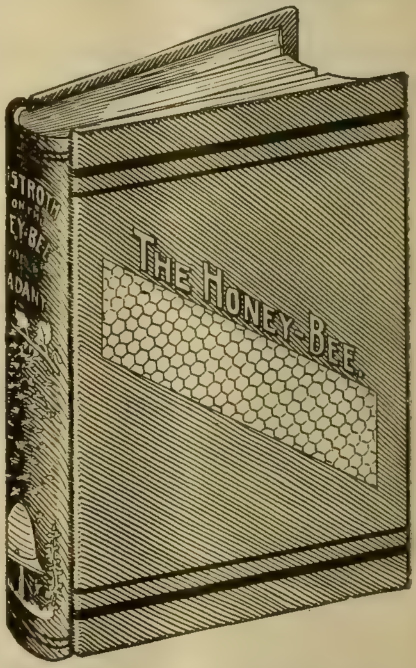
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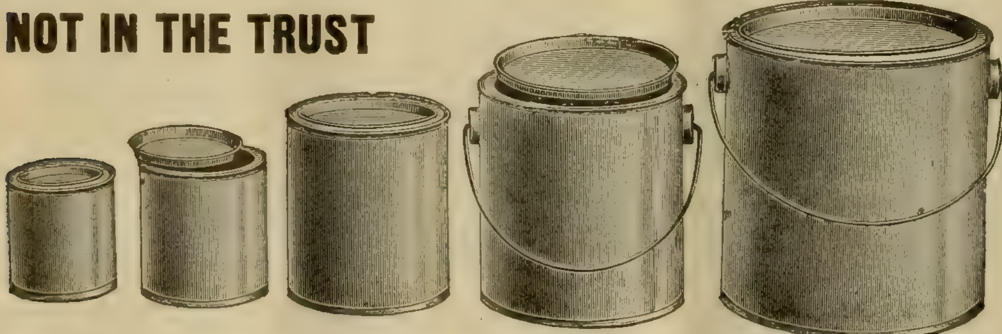

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There is no need of going into details why a Hive should be made with the greatest possible accuracy. If the work is not done very near perfect the bees will glue up the Hive with propolis and then your trouble begins. There's a satisfaction of putting up Root's Hives that more than pays for their slightly extra cost over the cheap-made kinds. Read what Mr. Dobson says:

The Experience of Two Bee-Keepers

CHAPTER I.

THE A. I. ROOT CO., Medina. MINNETONKA, MINN., March 28, 1906.

Gentlemen:—I am writing you in regard to some goods I bought of your agent, Mr. J. C. Acklin, 1024 Miss. St., St. Paul. I purchased five Danzenbaker hives with full sheets of foundation in brood-chamber and super. I will say this much for Root's Goods: I never saw nicer or cleaner stock, no cracked or broken pieces, and everything fitted to perfection. Everything full count, including nails, etc.

CHAPTER II.

To-day I was over to a neighbor's helping him assemble some newly purchased hives made by a firm in———. I was tempted to ask him why he didn't get Root's Goods. I wish you could have seen the difference. When I went there he had not uncrated them. I said to him, "Have you got all you need?" He said, "Oh, yes." Well, we found out differently. They had sent only half enough foundation, no small tacks for fastening wire, and not half enough nails, and sixteen top-bars short. I guess we said something to ourselves about that shipping clerk. WM. V. DOBSON.

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GEORGE W. YORK, Editor CHICAGO, ILL., APRIL 26, 1906 Vol. XLVI—No. 17

Editorial Notes and Comments

Honey and Herb-Tea for Bee-Paralysis

L'Apicoltore, of Milan, has opened its columns to the discussion of what we usually call "bee-paralysis," which is called by the Italians "Mal Di Maggio" or May disease. It appears that there has been a great deal of May disease in the Province of Ancona during the past three years. An apiarist by the name of Belluci has succeeded in preventing the spread of the disease by feeding his bees with a tonic preparation made of honey mixed with a tea of aromatic herbs, and a small proportion of salicylic acid. The March number of L'Apicoltore contains a lengthy article from the pen of Mr. C. P. Dadant, in which he gives his views on the subject, describing the disease as it has appeared in different countries, and commending Belluci's treatment.

Hurrying Up Queen-Rearing

Editor Root is interested in the experiment of trying to "steal a march on Nature of a whole month" in the matter of getting queens fertilized in the spring. The hives and nuclei are kept in a warm room, but with the entrances opening outdoors, so that whenever the weather favors they can fly out freely. It will not be a surprise if the scheme should fail, for the trouble in early spring queen-rearing is not in getting things done in the hive, but in getting the right kind of weather, and keeping hives in a warm room will not help the weather outdoors.

It seems consummate folly to waste good brains in experiments that are predestined to failure; but now and then something that we were cock-sure was all wrong turns out to be all right, and then we are all glad to have the benefit of it.

Alsike and Sweet Clover in Canada

A correspondent in Ontario writes as follows concerning alsike and sweet clover:

> I see there is an excitement over alsike clover. Even Editor Root talks of sowing it for bees and for hay. Locality may make all the difference, but every farmer here says nothing thrives upon it; and it was only grown here for seed till our new Seed Adulteration Act came into force, and now it is not being sown because the seed of a wild trefoil here prevalent can not be separated from it; but, oh! that alsike is the honey-plant above all others here, and farm lands are being abandoned through that accursed sweet clover. ONTARIO.

There is no doubt that in many places alsike is a valuable forage-plant, and this is perhaps the first report of any locality in which farmers say "nothing thrives upon it." Certainly there must have been demand for the seed that could hardly have originated if the plant had been generally worthless.

Is not the locality exceptional, too, with regard to sweet clover? Not many bee-keepers count it "accursed." But it is surprising how some people howl about sweet clover. It is very easy to eradicate if not wanted. Why not get excited over the Canada thistle and some other really villainous "weeds and things," and give sweet clover a rest?

All that is necessary to destroy sweet clover is to mow it just before it blooms. It is a biennial, and so, unlike the miserable Canada thistle, there will soon be an end to sweet clover.

But where farmers are becoming better educated they no longer oppose the spread of sweet clover, for it is valuable for hay and as a forage-plant aside from its excellent nectar-yielding qualities. If the hay and forage-plant values of sweet clover are doubted, ask Wm. Stolley, of Grand Island, Nebr. He has made hay of sweet clover for years, and has written about it for the American Bee Journal several times during the past few years.

Giving Empty Stories Below Queen-Excluders

To prevent swarming, G. W. Demaree gives a lower story containing empty combs or foundation under the brood-chamber, a queen-excluder between the two, putting the queen below. With some this has succeeded perfectly, while others have reported failure.

Something similar is reported as the practise of Herr A. Straeuli, editor of Die Europæische Bienenzucht—the new German journal that advocates American methods. But with Herr Straeuli it is a treatment of swarms rather than prevention of swarming. He does nothing to prevent swarming except to repress drone-comb and favor bees little given to swarming. Then when a prime swarm issues he hives it in a hive containing empty comb or foundation, sets it on the old stand, puts an excluder over it, and sets the old hive over that. This plan is worth considering by those who allow natural swarming but desire no increase.

A matter of some importance is the question whether it is not necessary to destroy queen-cells. Of course, neither the Demaree nor the Straeuli plan is avaiable for those who work for comb honey.

Ohio Foul-Brood Law—One Cent Per Colony Tax

According to Gleanings, this law has been signed by the Governor, and has gone into effect. Editor Root says:

> In brief, the law now provides that, on the complaint of three persons, residents of the county, to the county commissioners, setting forth that the disease known as foul brood actually exists within said county, the county commissioners *shall* (not *may*, as it was in the old law) appoint a competent person as foul-brood inspector, clothed with necessary authority to inspect colonies, and treat the same according to the most up-to-date methods. The expense of such inspection will be paid out of the funds secured from the special tax of one cent per colony, as I understand it. As there are 150,000 colonies in Ohio, according to the last census, this will give us a fund of $1500—more than enough, I should say, to do the work thoroughly throughout the whole State.

Ohio is to be congratulated on having a law with the vitally important compulsory part. There may, however, be a question whether something is not still left to be desired. An important duty of an inspector often consists in inspecting a suspected apiary to decide whether foul brood is present or not. In Ohio there is no compulsion to appoint an inspector until the disease is actually proven to be present. Even when the disease is actually present in a number of apiaries, it may not be an easy thing to get three persons to testify to its presence. A man may have an apiary rotten with foul brood, and a neighboring bee-keeper may be morally certain of the fact, but he is helpless. The owner of the diseased colonies forbids an examination, and how can any three persons testify to disease where no colony is examined? No inspector can help in the case, for no inspector can be appointed until three persons shall testify to the presence of a disease of which they are not allowed to have any positive proof, even if there were three persons competent to diagnose. It may be, however, that in some way the law provides for the contingency.

Referring to this same subject, comes the following from Mr. Henry Reddert, Secretary of the Southwestern Ohio and Hamilton County Bee-Keepers' Association:

> EDITOR YORK:—This Association has made every effort since the new Legislature met to make the Ohio Foul Brood Law mandatory, which finally ended in a grand success, due to the hard work of the Committee on Law of this society, consisting of Messrs. John H. Kroeger, John Sommers, John Hoffman, Jr., J. G. Creighton, and C. H. W. Weber, all practical bee-keepers of Hamilton county.
>
> The Hon. Thomas Hunt, Senator of Hamilton county, presented the Bill in the Senate, and it is due to this gentleman, who took a deep interest in its passage, that it passed the House of Representatives.
>
> Mr. Henry T. Hunt, a brother of the Senator, and Mr. Eugene Adler, both Representatives of Hamilton Co., in conjunction with their colleagues, deserve all credit this Association can give them for their moral support.
>
> Attorney G. R. Werner, an honorable member of this Association, revised the Bill in its present form, and bent every effort to call the attention of the Ohio lawmakers to the necessity of its passage. Though not a practical bee-keeper, Mr. Werner takes a deep interest in everything pertaining to the welfare of the honey-bee. In fact, the day may come when he will find sufficient time to spare from his legal duties to keep several colonies to make a thorough study of the wonderful doings of Nature. This is the opinion of his well wishers.
>
> Now that the law is passed by both Houses, this society being a State Bee-Keepers' Association, urges every County in Ohio to organize a bee-keepers' society, for the promotion of fraternity among all men and women who keep bees.
>
> The Ohio Foul Brood Law does not pertain to this dreaded disease only, but to other diseases of the honey-bee also. Further, it provides for an appointment of an inspector for these diseases in every county where bees are kept, whose duty it is to see that all bees are kept in movable-comb hives, which is a great stride toward the improvement of the honey-bee in every particular. HENRY REDDERT, *Sec.*
>
> Cincinnati, Ohio.

Miscellaneous News ∻ Items

Notes from the National.—General Manager France has received 173 new members for the National Bee-Keepers' Association since the Annual Report for 1905 was published. If there is a reader of the American Bee Journal who is not yet a member, he should send his dollar at once for a year's dues. If sent to this office we will be pleased to forward it, and the receipt will be mailed by Mr. France.

Recently Mr. France visited an apiary in Wisconsin with honey harvests as follows: 6500 pounds in 1902; 4000 in 1903; 400 in 1904; and in 1905 only 110 pounds, and all the bees died before cold weather in the fall. This is the experience of a bee-keeper who has had bees 30 years. Foul brood destroyed his bees. One of Mr. France's neighbors killed 100 colonies last fall rather than try to winter them.

In general, bees have wintered well in Wisconsin, and honey-plants look all right, with no old honey in the market. This ought to give the bee-keepers of that State a great advantage for their next crop of honey. We hope it may be a large one, and bring good prices.

* * *

Mr. John Doll and Sons, with several interior views of their factory, appear on the first page. While this bee-supply manufacturing concern has not been in existence many years, it has come to the front very rapidly. It is a case of "the whole family in the business"—a way that thrifty Germans have of compelling success.

Besides the five sons mentioned there are two daughters that work in the factory, and still two more daughters at home "which are not on the pay-roll, but are working for the interest of the concern just the same," so writes one of the sons. It seems to be a sort of "Roosevelt Family"—a regular "baseball nine" besides the father and mother, who, no doubt, unite in "umpiring" the "business game."

Mr. John Doll, the father, and senior member of the firm, has been a resident of Minneapolis for many years, is well known, and a thorough mechanic. He represents the money interest in the concern.

P. J. Doll, one of the younger members of the firm, is thoroughly familiar with wood-working in all its branches, having been employed in this line for many years previous to going into the bee-supply business. He has made a thorough study of bee-supples, and is the life and soul of the concern, having charge of the entire factory as well as the sales-end of the same.

Bernard Doll is a thorough workman, carefully trained and familiar with every detail that goes to make a good hive. As manager of the hive department, he has made good progress in efficiency and better service.

The section department is in charge of Servas Doll, who is an active member of the firm, and a capable and wide-awake young man, full of push and energy, and quick to see any chance for improvement.

H. J. Doll is one of the younger members of the family and firm, and has charge of the office, book-keeping and correspondence department.

Matt Doll has charge of the packing and shipping department, which has to do with railroad and express rates, shipping points, localities, etc. He is an expert in all this.

John Doll & Son are among our regular advertisers, and are endeavoring to build up an honorable and substantial bee-supply business, as we believe are all our other advertising patrons. We wish all of them as large a measure of success as they merit. And such is our desire for all our readers. The bee-business, from start to finish (including bee-paper publishing), is a co-operative effort—each department needs the help of all other departments in order to achieve the largest success. And so we must all rise or fall together. We bee-brethren should indeed be able always to say, as did the prophet of old, "We be brethren."

* * *

Mr. Allen Latham, President of the Connecticut Bee-Keepers' Association, sends us the following:

Bees in Spring

When March his blustering days gives to the past;
And April's showers bid the month of May,
"Come greet the sun with colors bright and gay!"
And buds on tree and bush do grow so fast
That all do burst, and eyes about them cast,
And green with envy grow, when, by a day,
The race is won by other buds than they.
Then wakes the little bee from winter's fast
To breezy life. And I by hive take seat
And watch the busy workers go to field.
Red maples' bloom gives this one honey sweet,
While willow catkins yellow pollen yield
To that, whose load so large doth hurt her flight.
Yet all come out, go in, with all their might.
ALLEN LATHAM.

* * *

S. D. Chapman, of Mancelona, Mich., wrote April 17, that bees in Northern Michigan have wintered in good condition; but that there would be no pollen for a week yet.

* * *

The Wood Binder.—Finally we have all orders filled, and have on hand a good supply, so that hereafter we can mail them promptly. Price, postpaid, 20 cents, or with the American Bee Journal one year—both for $1.10. Here is what Dr. Miller says of our Wood Binder for holding a year's numbers (52) of the American Bee Journal:

> MR. EDITOR:—Seeing your recommendation of the "Wood Binder," I desire to have my say. In the course of the years I tried different ready-made binders, as also two or three plans of binding of my own devising. I liked the latter better than any of the patent arrangements, but that might be partly attributed to the fact that one is likely to be partial to anything of one's "own git-up." However, that may be, since I have had the "Wood Binders"—I wonder how many years that is—I've gone back on "my own git-up," and have no hankering for anything better than the "Wood Binder." I count you are doing a favor to your subscribers to recommend its use to them.
>
> C. C. MILLER.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Contributed Special Articles

Methods of Rearing Queen-Bees

BY J. L. STRONG.

IN 1865 on a farm in Henry County, Iowa, my father bought his first colony of bees, in compliance with my request. We knew but little about bees then, but being anxious to learn, I began hunting for articles on bees in back numbers of the American Apiculturist, in which M. Quinby had an article every month. He spoke of the Italians as being far superior to the common bees, and being anxious to secure the best, I bought a colony the following season and began to study queen-rearing. About this time Quinby's "Mysteries of Bee-Keeping Explained" fell into my hands. This book had a fascination for me that no novel ever possessed. This author said that just as good queens could be produced in small boxes 3 or 4 inches square as in full-sized hives. So I made a few of the boxes and began queen-rearing.

It is needless to say that my first efforts were failures, from want of experience, and from using too small boxes. Not being inclined to give up here, I made some larger hives as described by the Rev. E. L. Briggs in our local paper, who was afterward my partner in queen-rearing. This hive was 7½ inches deep and 13 inches long inside, and held 8 or 10 combs, with just one-half the comb surface of the standard Langstroth, and was designed to be used in connection with one that held 3 combs for a mating-box. With this outfit I was more successful and reared a few nice queens, as I then thought. Untested queens were then selling at $10 each, warranted purely mated. A year or two later I wanted more mating-boxes, and conceived the idea of dividing these 8-comb hives with a board, with an entrance for one part on the south and the other on the east side. This was my first experience with twin mating-boxes.

I have reared queens in this way ever since, and see no need of a change. I now use hives large enough for 6 combs and a division-board, and when I want to close up in the fall I dispose of the surplus queens, draw out the division-board, and unite two or more of these colonies until there are bees enough for winter; then supply the necessary honey.

I usually winter these colonies in the cellar one story, but have wintered them successfully on the summer stands two stories high. I now have about 60 of these hives in the cellar on top of a pile of 10-frame Langstroth hives, and they usually come out in good condition in the spring, and are quite handy to furnish tested queens early in the spring, and also to divide up for queen-rearing nuclei. I do not want less than 3 combs in a hive, so that I can have one empty comb or sheet of foundation for the bees to fill. This makes them better satisfied and less inclined to abscond; and I feel better when I know each colony in the yard has room enough to store what honey they can gather for a few days.

I find that when a queen begins to lay in one of these twin-hives, if the weather is cool, she often lays in the comb next to the division first. This shows that the cluster on the other side helps to maintain the requisite heat.

A 10-frame Langstroth hive-body can be easily changed to take these combs by fitting ½-inch boards 7 inches wide in the long sides to form the rabbets; then hang the combs crosswise. Make 3 entrances, one in each of the 3 sides—east, west and south. Hive a swarm in this, and if the bees work from each of the entrances about equal until there are 3 combs with brood, remove the queen. Make 3 divisions with a comb of brood in each, and give each part a ripe cell or virgin queen to become fertile.

FORMING NUCLEI IN TWIN-HIVES.

Go to a strong colony when the bees are flying freely from 10 a. m. to 2 p. m. First find the queen, put her comb and all into a comb-basket. Now take out the combs one after another, shake and brush the bees into this twin-hive until there are enough to stock both sides; then close up this hive so that no bees can get out or pass from one side to the other; for if they can there will be but one queen; the other side will be used for surplus honey.

Now set this hive in the cellar or in some other cool place for 4 to 6 hours, when the bees will be ready to accept any queen that may be given to them. I usually give a virgin at this time, and with better success than when I give a virgin where a laying queen has been removed. This hive must be furnished with combs and honey, but no brood.

I have had some experience with baby nuclei the past two seasons, but they have not been a success with me. They do very well during the hot months, but for the season through I think more work is required to produce queens with them than with the permanent nuclei.

FEEDING SYRUP IN WINTER.

This can be done, but it is not advisable. I will give my experience.

A few years ago there was a failure in the honey crop, and I had 2 queen-rearing colonies without honey enough to last until time to put them into the cellar. I had not intended to try to winter them, as I had no combs of sealed honey to give them, but as there appeared to be plenty of bees, I concluded to try feeding sugar syrup. So I filled a fruit-jar with syrup, put on a perforated cover, and inverted it above the cluster. These colonies were wintered in the cellar, and had nothing but sugar syrup and came out in fairly good condition in the spring. They had soiled their hives a little, but not as badly as I have seen those do that were wintered on natural stores.

Clarinda, Iowa.

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Internal Hive Temperature—Some Experiments

BY G. M. DOOLITTLE.

ON page 123 "Wisconsin" asks Dr. Miller some questions regarding the 'internal hive temperature" that may be expected inside the brood-nest, and above the same. These questions, together with Dr. Miller's answers, led me to think of some of the experiments I have conducted, and as Dr. Miller does not seem to have the exact figures at hand, to fully answer "Wisconsin's" query, I trust he will excuse me for giving the results of the experiments which I conducted, and in trying to answer his ("Wisconsin's") questions, as well.

The first question is, "How many degrees of temperature is there in a bee-hive, in the brood-nest, or above the brood-nest?" I found that, with my self-registering spirit thermometer, it was very easy to get the highest temperature ever obtained in the brood-nest; but not so easy to ascertain the very lowest. From repeated trials during several years, I find that 98 degrees is the greatest heat that is ever allowed by the bees while rearing brood, unless the outside temperature is so hot that the bees are all driven out from the hive, which is never the case in this locality. And this was proven by an experiment conducted on a day in which the mercury rose to 97 degrees in the shade, and 130 degrees in the sun, with the hives all standing in the sun. Just how it was possible for the bees to keep the temperature down to the brood-rearing point is something I can only guess at; but I know that they did it. My guess is, that it was done through their ventilating the hive from the entrance, with fanning wings, and the evaporation or making of moisture through "boiling down" thin nectar or water, or both, which was brought in. I hardly think it could have been done by ventilation alone, for on a day when the air outside is within one degree of the limit of heat inside, with the sun pouring right down on the hive, it seems hardly possible that such a thing could be done.

On such a day as this, I once put a sitting hen under an old bee-hive, till I could fix a permanent place for her, and before I had the place fixed, a neighbor called and hindered me a couple of hours, when, on my return, I found the hen dead, and apparently nearly roasted from the sun shining on the hive; and it did not fit the ground so but what there were more open cracks under it than the entrance to a bee-hive, as ordinarily used.

All are well aware that through evaporation a lower temperature can be obtained than in a perfectly dry air. Dr. Miller thinks that on a "broiling hot day" the temperature above the brood-nest might be about the same as in the nest, but I found at that time the temperature in the supers was from 110 to 113, with only 98 in the brood-nest, the crust of bees keeping the heat above from going below.

Having ascertained that 98 degrees was the highest ever obtained in the brood-nest, I next went about finding out the lowest temperature that could be allowed. To ascertain this point, the thermometer was kept hot by putting a heated iron in a box and covering it with a cloth, when the thermometer was placed on the cloth, another cloth tucked down over it, and the box closed. In this way I could have the registering bar on the cold side up to 115 when placed in the center of the cluster of bees forming the brood-nest, for it is the cluster or "crust" of bees which forms the brood-nest proper, not the hive.

Imagine my surprise to find that the coldest point I ever obtained in the brood-nest of a strong colony of bees was 96 degrees, and that on a night when the ground was frozen in the morning, and ice formed one-half inch thick. I tried the same experiment with weak colonies, and in one case, with a colony so weak that it could only hold brood in two combs, about as large as the hand in each comb, and the lowest temperature I obtained in this weak colony was 92 degrees, and that during a night so cold that the ground was white with frost in the morning. In this there is a mystery almost as great as the keeping of the heat down, on a hot day. How is it possible for a pint of bees, in the center of a full 10-frame Langstroth hive, to keep a temperature of 92 degrees in their little brood-nest, with the temperature at from 28 to 30 degrees outside for hours, and sometimes days, at a time? Can any one tell? I can't.

Yea, more: I have seen brood perfected with less than a teacupful of bees between two combs, and this brood only on the sides of the comb next to these bees, with the opposite sides of the combs entirely bare of bees; yet by carefully watching I ascertained that said brood emerged into bees within one-half day of the regulation 21 days of time.

All my experiments go to show that *all* brood-rearing is done at a temperature varying only about 6 degrees, namely, between 92 and 98. When it is colder than this outside, the bees are supposed to warm it up to the needed point by "burning" honey as "fuel," and if it is warmer than this outside, through the rays of the hot sun, they keep it down to 98, or the needed point, through ventilation and the evaporation of water into moisture. Surely they are a *wonderful little animal.*

But how about the hive-temperature outside of the brood-nest? There is nothing definite about this matter. When the crust bees, which form the brood-nest, expand to such an extent that they touch the hive at any or all points, then the temperature of the hive may, and will, be from 92 to 98 degrees; but when the brood-nest is confined within the crust of bees, they not touching the hive at any point, as is very often the case in cold or cool spring weather, then that temperature will vary according to the varying changes outside. In one case where I experimented, I found it only 45 degrees at the top of the cluster of bees, and within an inch of them, while brood-rearing was going on nicely only 3 inches below, with a temperature of 96. And how this crust of bees, that seems almost as open as a sieve, to me, can confine the heat so effectually within itself, is another of the mysteries known only to our pets.

The second question asked by "Wisconsin" is, "If I place one hive on top of the other, what would be the temperature in the top hive? Would this make any difference?" I hardly understand what is wanted in this question. If it is asked if it will make any difference as regards the temperature in the brood-nest in the hive below, I say no. The crust bees will keep that at the 92 to 98 degrees, just the same.

And right here I suppose I shall be considered a "heretic" by the masses, when I say, that from all I can see by way of my experiments, they will keep that temperature of from 92 to 98 degrees in the brood-nest, just as easily as they did, or could, before that upper hive was put on, as the heat is confined within the *cluster* or *crust* of bees, not in the hive. The bees are almost independent of the hive (until they touch its walls, by way of the compact cluster), only so far as it gives them protection from their enemies, and the winds and storms. And any one can ascertain about this matter without a thermometer, where the hive used has a quilt, and a cushion above this, at the top.

On a cold morning in early spring, just put your hand under the cushion, and over the quilt or cloth, immediately on top of the frames, and if the cluster does not come up so as to touch this cloth, you will find it nearly as cold as the outside air; but if the cluster touches the cloth, you will find that just so far as it touches the same it will feel almost like putting your hand in an oven, while outside of this the cloth is cold. I have often located the size of the cluster, and where and how much brood the colony had, where the colonies were strong enough to come up to the cloth above the frames, in just this way.

No, the heat from the cluster is not allowed to pass up into an upper hive, at any time when that heat is needed for the brood within the cluster of bees, and no one could tell what the temperature in the top hive would be, further than to say that it would vary just in accord to the weather outside.

"Wisconsin's" third and fourth questions have been answered in what has already been said. And by these answers, Dr. Miller will see that either my experiments have been at fault or else his answer to question 4 is incorrect; for in that answer he says that the temperature in a small cluster of bees might be expected to fall somewhat in proportion to that in the surrounding air. This was just my idea until I made the experiments. But those experiments told me that where there was a cluster of bees large enough to cover the spirit bulbs of the thermometer, that in no case was brood-rearing carried on with a less temperature than 92 degrees.

Borodino, N. Y.

Management for Big Yields of Honey

BY T. L. SHAWLER.

I WILL try to tell how I got those big yields of honey three years in succession without any natural swarming, mentioned on page 46. In the first place, I have a fine location. I don't see how it could be improved as to honey-yielding plants. I use the 8-frame dovetail hive. The 10-frame hive would be better for extracted honey, but I started with the 8-frame, and it is hard to change. I must always have my colonies 4 and 5 stories high, all full-story depth. The next thing, have a good queen of the leather-colored Italian stock. See that one of them is in every hive in the fall, for you have no time to requeen in the spring, and get a big crop of honey.

I winter my bees in a cave and they always come out strong. The first thing, when I put them out, is to see that they have enough honey to take them through the cool days; if not, I feed them. Then a little later on I feed granulated sugar made into a syrup, to crowd brood-rearing. Don't let them get scant of stores before the honey-flow; it will stop brood-rearing.

When the spring is favorable, we have an early honey-flow from dandelion, willow and fruit-bloom; then it takes no feeding. The bee-keeper must watch these little things; he can tell when the bees are in need.

I forgot to mention that when I take the bees out of the cave in the spring I put a cushion over them. This is a wonderful help in the early spring. When it gets settled warm weather I take a frame of brood from the strongest and give to the weakest colonies. When the honey-flow comes I have all strong and ready to bring in the honey. Then I begin to add stories as fast as they need them. Keep close watch and don't let the bees get out of room the first of the season.

I begin to extract when the honey is about one-third or less capped over. I keep that up through the season. I put the honey in open tanks, with cheese-cloth over them, in a hot, dry room, and I don't believe anybody has better extracted honey than I have. I get about 1½ cents more per pound than the market price. I know that some bee-keepers advise letting the bees cap the honey all over, and some advise waiting until the white honey-flow is over. I could not do that. I never could get enough stories to hold the honey and give the bees room. I believe I extract about every 10 days in a good honey-flow. I could never get anything like the honey that I do get, if I left it until it was all capped, and I would have the air full of swarms.

To prevent swarming, when the weather begins to get real warm, raise the hives up from the bottom-board so that the bees can get plenty of air. It makes no difference if they work out from the sides. Raise the top so that they can have air from above; also lay a shade-board over the top of the hive. Have a good hive-stand, one where the bees can crawl up from the ground into their hive when they come in heavily loaded and fall on the ground. I think this is a great help in a heavy flow. I also believe that some strains of bees are worse swarmers than others, and I have tried for years to weed out. I think I have succeeded. My advice would be, if you have time, get the best queen you possibly can, and rear your own queens. My wife rears all my queens, and she delights in the work. When I want to increase the bees I just draw a frame or two of brood from each hive and give them a ripe queen-cell.

You must use judgment and not extract the honey too close at the end of the season.

I want to say to the bee-keepers, don't think that you cannot afford a bee-paper, but take 3 or 4 and read them closely, and then keep close watch of the bees and do the little things, for it is the little things that we neglect.

Mills Co., Iowa.

Convention Proceedings

Report of the Northern Michigan Convention

BY IRA D. BARTLETT.

[Continued from page 346.]

SECOND DAY.

The morning session opened at 8:50 o'clock.

Mr. Hilton read the report of the awarding committee, as follows:

CLASS A.—Best 10 pounds of red raspberry comb honey. 1st prize, Observatory Hive, won by E. D. Townsend. 2d prize, a year's subscription to American Bee Journal, won by Geo. H. Kirkpatrick.

CLASS B.—Best 10 pounds of comb honey, any variety. 1st prize, 500 No. 1 Lewis sections, won by E. E. Coveyou.

CLASS C.—Best 10 pounds of extracted red raspberry honey. 1st prize, 500 No. 1 Lewis sections, won by E. D. Townsend. 2d prize, a year's subscription to the Bee-Keeper's Review, won by Mr. Kirkpatrick.

CLASS D.—Best 10 pounds of extracted honey, any variety. 1st prize, a year's subscription to the American Bee Journal, won by Geo. H. Kirkpatrick.

CLASS E.—Best single section of honey. 1st prize, one Standard Corneil Smoker, won by Mr. Kirkpatrick.

CLASS F.—Best 10 pounds of beeswax. 1st prize, a Bingham Smoke Engine, won by Mr. Kirkpatrick. 2d prize, won by E. D. Townsend.

REDUCTION OF FREIGHT RATES.

Mr. W. Z. Hutchinson read the report drafted by the Committee on Resolutions, which was adopted, as follows:

WHEREAS, The freight-rates on beeswax are higher than on similar substances, and the rates on extracted honey are higher than on syrups, the rates on bees are almost prohibitive, even though shipped at owner's risk, therefore be it

Resolved, That the Northern Michigan Bee-Keepers' Association ask the National Association to make all possible efforts to procure more equitable rates on their products.

W. Z. HUTCHINSON,
E. D. TOWNSEND,
S. D. CHAPMAN,
Committee.

Mr. Hilton then gave his opinion, saying that he believed we were taking the right steps, and that he believed the National could and would help us in the matter suggested.

The election of officers resulted as follows: President, George H. Kirkpatrick, of Rapid City; Vice-President, E. D. Townsend, of Remus; Secretary and Treasurer, Ira D. Bartlett, of East Jordan.

It was decided to hold the next meeting at East Jordan, the time of meeting to be left to the executive board.

FIFTY YEARS FROM NOW—A PROPHECY.

Mr. Hutchinson then gave us a short talk on the prospects of a honey crop 50 years hence. He spoke about the sage of California, believing that it would be there, and secreting honey, but in general thought it was merely a prophecy.

Mr. Chapman said that he was sure of one thing, and that was that we could be sure of milkweed and Canada thistles 50 years hence.

Mr. Hilton said that in his locality the red raspberry, the willow-herb, and other plants that were there in his locality 30 years ago, have disappeared somewhat, but that other plants are now taking their places; and that he believed we need have no fear, for surely Nature will provide some other plants.

Mr. Chapman said that if it were not for the forest fires we would have red raspberry plants longer.

SUPERSEDING QUEENS.

Do you supersede queens, or do you allow the bees to do it?

Mr. Kirkpatrick—I supersede queens during the month of July.

Mr. Chapman also practises killing the queens at this time.

Mr. Hilton asked if the practise caused excessive swarming.

Mr. Chapman—No; if the bees have not the swarming fever.

Mr. Smith never has bees swarm late, so he could supersede without trouble from swarming.

CROSSNESS IN BEES.

Are bees crosser some seasons than others, or is crossness a sign of degeneracy?

Mr. Coveyou says that shortly after a honey-flow bees are cross, but he thinks that as a rule they average about the same.

Mr. Chapman says that bees in shade are crosser.

MIGRATORY BEE-KEEPING.

Huber Root asked if migratory bee-keeping pays. Mr. Hilton thought that conditions make the difference. If you have nothing much at home, move them to another field where the flow is on, and he believes that you will be well paid. A change of locality, he says, inspires the colony.

Mr. Coveyou said that he moved some bees to his home yard from another yard and they did much better.

Mr. Smith had the same experience.

Mr. Hutchinson said that it was the opinion of those at the Chicago convention that the moving seemed to inspire, but that in most places it seemed that the bees were placed in the front of the yard, and that it was possible that many bees from the back hives entered those hives, causing the apparent difference.

BEES CONVERSING—SHAKING QUEEN-CELLS.

Mr. Chapman asked how bees converse with each other. Different opinions were given; decided that Nature provides.

Mr. Bartlett asked if shaking combs with queen-cells on them would hurt the queen in the larval state. Mr. Hutchinson said that it would; that he had lost a great many queens in that way, before he knew what was wrong. Mr. Chapman had a similar experience.

WIRING FRAMES.

The question of wiring frames was then brought up. Messrs. Hutchinson, Kirkpatrick, Smith, Coveyou, and others, told how they wired; most wanted the foundation warm. Mr. Bartlett wanted his cold, and heated the embedder. Huber Root said that embedding by electricity is the best way if you have access to the right current.

Mr. Kitson wished to know the best way of wiring—horizontally, perpendicularly, or diagonally. Mr. Hilton said that the horizontal wiring seemed to be recognized as the best way.

COMB AND EXTRACTED HONEY IN SAME HIVE.

Mr. Kirkpatrick asked for the experience of those producing comb and extracted honey in the same hive.

Mr. Townsend uses a piece of wood in the center of the extracting combs, so that he can key up in the outside center. Mr. Kirkpatrick uses for the first super, one extracting comb in the center and one on each side, and on others put on uses only a comb on each side.

WIRE-CLOTH SEPARATORS.

Mr. Kitson asked if any one used wire-cloth for separators.

Mr. Kirkpatrick had used them. Mr. Root did not think they were a success in general, but that there were bee-keepers in New York State who use them successfully.

Mr. Smith asked how much more we should get for comb than for extracted honey. Answer—Twice as much.

Mr. Coveyou asked how we could get people not to break sections in handling. Nothing definite given.

Adjourned to meet in East Jordan some time in April, 1907
IRA D. BARTLETT, *Sec.*

Southern Beedom

Conducted by **LOUIS H. SCHOLL**, New Braunfels, Tex.

The Improvement of Our Bees

Time and again our attention has been called to the improvement of stock in bees, and just as often have our eyes met in print such terms as "Improved Races," "Improved Honey-Gatherers," "Superior Stock," etc. We are—most of us, at least—well aware of the fact that such improved stock, as the above terms would mean to imply, would be just what is wanted for the betterment of our industry and an increase in honey-yield, to swell our pocket-books. It remains to be seen, however, whether in reality quite as much improvement has been made as is claimed by many of the bee-keeping craft. I have always been just a little afraid that more claim is made for such a thing as "improvement of stock of the honey-bee" than is really warranted.

It is true that there are a *few* intelligent bee-keepers who have given much time, study and attention to the *breeding part* of their apiaries for the production of such queens as will really be superior to the "common run." This *can* be done by careful selection, keeping a close record of the breeding queens, both from which to rear the daughters and those that are selected for the production of the male sex. This part of the matter in question will be taken up a little later. At present the question confronting us is whether any great improvement of stock of the honey-bee has been made by man in the length of time his attention has been paid to bee-keeping, and with the opportunities he has had for doing so.

My opinions are so much in accord with those of J. A. Green, in Gleanings in Bee Culture, that it is given here. It is a criticism on some statements made regarding the extent of improvement made by man with the honey-bee:

IMPROVEMENT OF BEES.

Is the optimistic tone of the article by R. B. McCain, page 1236, entirely warranted? Is it true that "the stock of the honey-bee has been wonderfully improved by man's management in the application of the principles of scientific bee-culture?" It is true, indeed, that there is a great difference in the working qualities of different strains of bees, and that in some cases we may, perhaps, fairly claim to have accomplished improvement by intelligent selection; but, as a whole, I must say that the results have been pitifully small and inadequate, considering our opportunities. We have frequently had our attention called to the fact that we have exceptional opportunities for improvement by breeding and selection on account of the shortness of the generation of the bee; but have we really made as much improvement in bees as has been made in other domestic animals in the same time?

It is true that most of us believe that the Italian bee is better than the German-brown or black bee it has superseded in nearly all localities, and that there can be found those who express a preference for each of the other races that have been brought to this country, but the importation of these races is not to be considered as improvements in bees due to man's management or the application of principles of scientific culture. The only thing that can be considered in that light is the change that has been made by breeding and selection since they have come to this country. How much real improvement has there been? I think there has been some; but leaving out the claims of advertisers, many of which are not substantiated by results, and remembering how many there are who believe that bees from newly imported stock are superior, it does not really seem that anything very wonderful has been done.

Too much of our breeding has been done hap-hazard, and without any intelligent system or direction other than the production of yellow bees and nice-looking queens. Will Mr. McCain, or any one else, point out where bees have been produced which are better adapted to particular localities, or to particular kinds of work, or where the quality of the honey, other than an improvement in appearance, has been affected by improvement in the stock?

We must remember that many people have bees that, from one cause or another, are very inferior. When one of these gets new stock, no matter where, he is quite sure to get something superior to what he has had. Accordingly he writes a glowing testimonial, which the queen-breeder publishes, and plumes himself on having something really superior, whereas his stock may be quite ordinary. My own experience with some of this so-called superior stock has been very disappointing.

My experience has been very much like that of Mr. Green's. Referring to the changing of queens from one country to another, or from one locality to another, yea, even if a queen is taken and introduced into another colony from one in the same yard, it causes a certain stimulus that very frequently results in that the colony with such a change of queens outstrips, or at least does better, than the others. And the consequence is "one of those glowing testimonials" for the queen-breeder whence the queen came, no matter who he may be.

I also agree with Mr. Green when he says that a bee-keeper may have very inferior stock in his apiary. By introducing stock of only average quality it may far surpass the old stock. Another testimonial for the queen-breeder, and yet that same queen-breeder has only such stock as belongs to the common run, or it may even be inferior.

Many queen-rearing apiaries have been visited by me in my travels, some of these belonging to some of our largest and foremost queen-breeders (?). The result has been a feeling of disgust whenever the glowing advertisements of some of these chanced to meet the eyes of ye reader. 'Tis true that there are able men among the craft who spend much study upon the subject of queen-rearing, and also to that of *breeding*, but entirely too many of them, I fear (at least out of the number I have visited), leave off the very important part—that of *breeding*, and pay all their attention, or too much of it, to the methods of rearing and mating the queens and getting them off for the money. Such could hardly be called queen-*breeders?* Queen-rearers would be more appropriate for this class, and there should be a distinction between the two.

A queen-breeder who merely selects a nice-looking mother-queen, that produces nice looking honey-gatherers, even if they are better than the rest in the apiary, and rears his daughter from her to be mated to any drones in the yard, can hardly be held up as a *breeder*. Queen-*breeding* and queen-*rearing* are two things, in my mind, at least.

This also brings us to the fact that "too much of our breeding has been done hap-hazard, and without any intelligent system or direction other than the production of yellow bees and nice-looking queens." These many, of course, have a record as honey-gatherers. Selection of the queen-mothers receives its share of attention by many breeders, perhaps, but the breeding part of this matter could be much advanced. Is even this much attention given the subject of drone-mothers—mothers that will produce drones of the desired qualities? This matter of drone-breeding (?) and their control for mating the selected-bred queens should receive more attention.

I am of the opinion that great results could be obtained if the right and proper steps are taken in the breeding of both our queens and the drones for mating them. Just what the procedure should be will have to be studied out. With the help of discussions on this subject, from the many able bee-men throughout the country, it should be possible to arrive at conclusions that would be valuable. Improved stock would mean a great deal; it would be worth dollars and cents to the bee-keeper, hence it should be considered thoroughly.

National Association to Meet in Texas

SAN ANTONIO, TEX., March 24.—The National Bee-Keepers' Association will hold its 1906 session in San Antonio.

The low rates offered by many railroads for the annual Grand Army of the Republic convention to be held in Minneapolis almost succeeded in inducing the Executive Board of the bee-keepers to hold the session for this year in the North. A former promise made to Texas, however, led the Board to decide upon San Antonio for the place of meeting, the time to be Nov. 8, 1906.

This was the first notice of the time and place of the next National Convention that I received. It appeared in Dallas (Tex.) Semi-Weekly News. There will be a three-days' session extending to the 10th. More particulars will be given out from time to time as soon as we learn of them.

We Southerners are hoping that a good meeting will be held this year—the third time we "tried" for the convention at San Antonio.

And to the bee-keepers of the South: The National will now come, and we must do our part. Your help and assistance will be looked forward to for making this meeting a good one. And remember, please, that *all* bee-keepers of the *South* should take a hearty interest in this, for the Texans do not mean to exclude those from other States.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

Danger of Bees Starving—Short of Stores

One would think that enough had been said in all conscience about the danger of starving, but the danger is such an insidious one, and the results so disastrous that a special word of warning to the sisters who have lately joined our ranks may not be out of place. It takes years of experience for one to have a full realization of the rapidity with which stores melt away at this time of year in localities where breeding is at its height and little is being gathered. The bees are flying every day, and the novice feels perfectly at ease as to their gathering enough for daily needs, when really they are living on short rations, and a few days of unfavorable weather may mean starvation of the whole colony.

Even one of year's experience may not realize the harm that is quietly going on. No bees may starve, no brood may be destroyed, there may be stores in the hive, and yet the bees realize that the larder is not very full, and there will not be as much brood reared as if an abundance were in sight.

Neither is vigilance to be relaxed when the harvest is on. In white clover regions the fields may be white with bloom, and the ground in front of the hives also white with the skins of the larvæ from which the starving bees have sucked out the juices. Such starvation in June does not often occur; but it does occur at times; and although none of the mature bees may die, it is a terrible set-back to have laying cease and all the unsealed brood destroyed. One would be horrified to go out some fine morning and see a pile of 10,000 dead bees lying in front of a hive; yet the loss would be no greater, although more plainly visible, than in the case mentioned.

A Sister's Report—Clipping Queens

Dear Miss Wilson:—I have worked with bees a number of years and enjoy it. Our house is 30x40, a cellar under one-half of it, the other half used to winter the bees, and I find it a good place to winter them. It has always been a hard place to get them in and out, until last season my son-in-law, who is a railroad man, put in a track 2x4, and 42 feet long, reaching under the floor of the woodhouse to the outside. The truck has flanges to the little wheels, and holds one or two hives, and is very easy to draw back and forth with a rope. It took four persons about one hour to put 39 colonies in this winter receptacle; they have wintered nicely, too.

Last season was much better than the three preceding ones. From one colony with a clipped queen I took part of the brood and gave a queen-cell, and from the parent colony I took 76 sections of honey. They swarmed, but went back each time.

I intend to clip all queens this spring, as I had some climbing to do last summer..

Of course, I would not know how to get along without the "Old Reliable," and enjoy the sisters' corner; and as it is impossible to visit the Bay State Apiary, I should very much like to hear about the "whole process" of queen-rearing by the New England sister.

At the breakfast table we were talking about Doctors of Divinity, Doctors of Law, and Doctors of Medicine, and wondered to which class Dr. C. C. Miller belonged. Some of us don't know as much as others do.

Mrs. D. W. Brown.

Cherry Hill, Pa.

You are very wise to clip all queens, and any sister who has not a special fondness for climbing will do well to follow your example. It is not a very hard thing to catch a queen, and with a pair of scissors cut off the two wings on one side. But be sure never to clip a queen before she has begun laying. If you clip a virgin queen she can never produce anything but drones.

Some object to clipping a queen because she may some time come out with a swarm when no one is watching, and be lost; but if she were not clipped she would go off with the swarm, in which case she would be just as badly lost. It is better to lose the queen alone than to lose both queen and swarm. Generally, however, a clipped queen goes back into the hive when the swarm returns; and that's the beauty of the whole thing, that when a swarm finds it has no queen with it there is not the slighest danger of its absconding. It is sure to return to its own hive, except in some cases it may enter some other hive from which a swarm has issued within the previous hour.

Dr. Miller was graduated from the University of Michigan with the degree of M. D. He practised medicine only a year or so, his own health not being good enough properly to care for the health of others. If he had not become a bee-keeper he would likely have been dead years ago.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Reports On Wintering Wanted

It is the aim of the present management to make "Canadian Beedom" as valuable as possible to the Canadian readers of the American Bee Journal. To this end we would like to publish reports on wintering from our readers in all parts of the country. It will be necessary to answer only a few questions on a postal card, address it to Morley Pettit, Villa Nova, Ont., and mail it. We will do the rest. It will only take a few minutes. If you can not answer all the questions answer the ones you can. Do it now.

Questions to Be Answered.

1. How many colonies of bees had you in the spring of 1905? Fall of 1905? Spring of 1906?
2. If any died in winter what was the cause?
3. What is the condition of those remaining, as to average number of combs occupied by bees on a cool morning and average number of combs of brood and eggs in eac would fill?
4. What are the prospects for clover in your section? For fruit-bloom?

Items of Interest

"A little farm well tilled and and a little barn well filled," with a happy home, is the most valuable earthly possession.—Farm, Field and Fireside.

The Maritime Farmer for March 20 has an article on "Early Spring Work in the Apiary," copied from the American Bee Journal.

The Simcoe Reformer copies Edwin Trinder's sketch from the American Bee Journal.

Followers in Brood-Chambers

Now see me go at Dr. Miller. He says in Gleanings, page 343:

> R. F. Holtermann, page 290, says that with comb foundation and accurate spacing "there is no need of a follower or the space for a follower," and this as I understand it with self-spacing frames. I wonder, I wonder what there is about his locality or management that makes it so. I would not do without followers for money.

Now, Mr. Holtermann uses exactly the same frame that I do. I think I can call it the Langstroth frame of S. T. Pettit pattern. We do not have wax built between the top-bars, because the frames are *accurately spaced*, and because the top-bars are only ⅝ inch deep—a depth which with the timber we get here we find deep enough to keep straight without sagging.

Unless the hive is too large by a half inch, and needs filling out, the only use I see for a follower is to facilitate removing combs by allowing the self-spaced combs to be spread apart. A Pettit comb can be lifted up in any part of a brood-chamber without removing any follower, for the following reasons:

1. No wax built to fasten top-bars to their neighbors.
2. No long shoulder of Hoffman frame to pull loose from the shoulder of its neighbor. The spacer is a staple which touches the next top-bar by a rounded point only.
3. While the top-bars are 9–8 wide, the bottom-bars are only 6–8 inch, so the whole comb is wedge-shaped, end-bars and all slip out freely when once started.
4. The top-bars are just even with the top of the brood-chamber, so the excluder rim rests flat on their ends, and keeps them clean so they do not need to be cut short to prevent their being built in solid to the rabbet.
5. The Ferry Hive-Tool, which I carry hanging on my little finger all the time I am operating on brood-chambers, is all that is necessary to give a comb a little pry loose, then hook in the staple to lift one end and get the first comb started.

Did Dr. Miller just go round a corner? I only wanted to say before he gets out of hearing: I would not *use* followers for money.

Bees Moving Eggs

I have been waiting for the more able ones of the trio to bring forward *their* proof that bees sometimes move eggs (page 165). My experience, as I recollect it definitely now, is this:

1. A comb containing eggs, larvæ, etc., moved into the extracting super (by the bee-keeper, not the bees). In a day or two queen-cells containing eggs started on the adjoining combs, showing the bees had moved these eggs across the space to the next comb where no queen had been.
2. Queen-cells on the lower edge of the super-combs when I felt positive no queen had been up. It does not seem probable that bees could move larvæ, as Mr. Hasty hints (page 307), without injuring them.

Wintered Fairly Well

Mr. Frank P. Adams, of Brantford, writes on March 22 of his bees in the cellar:

> They seem to be coming through fairly well. Those that I put out in January for a flight are sweet and clean yet—no spotting whatever; but whether the flight has proved a benefit in other respects of course will only show when brood-rearing is well under way. There is some spotting among the other colonies in the cellar, possibly 5 or 6 out of 200 odd.
> FRANK P. ADAMS.

Spring Management of Bees

Mrs. E. H. Dewey, in the Prairie Farmer, has an article on spring management, from which we quote a few terse sentences:

> Every effort of the bee-keeper should be exerted to build up these small colonies, and at the same time it never pays to rob Peter to pay Paul, especially if Peter is going to be seriously inconvenienced thereby.
>
> Too much protection can not be given the bees in the spring, especially weak colonies.
>
> Spreading brood is a dangerous move in changeable climates, and needless work in others.

Gentler Bees Hardly Necessary

Speaking of gentle bees, Farm, Stock and Home says:

> The ordinary bee-keeper is willing to endure a few stings and get along with plainer looking bees if dollars and cents are what he is after.

He is also willing to have his out-yards protected from possible marauders. If the word went out that we had "stingless" bees, that anybody could handle without fear, we might give up bee-keeping as a business. For the honey in our hives would be as free as melons in the "patch," and so many who are only deterred from bee-keeping by the fear of stings would launch out in the business that the country would soon be greatly overstocked.

Metal-Spaced Hoffman Frames

A metal spacer for Hoffman frames is mentioned on age 118, which, I think, is a good thing. Now I have not used regular Hoffman frames, and do not want to do so. I *have* used *nail*-spaced frames, and consider them an abomination. I use staple spacers entirely, and like them well, but I see this disadvantage that the metal spacer described will overcome: When a staple is driven into the side of a top-bar the latter's tendency to split is increased so that in shaking a heavy comb to get the bees off, the lug sometimes comes off, too. The metal spacer described comes up over the top-bar, and strengthens the lug instead of weakening it.

Northern and Southern "Longfellows"

Six feet three! (Page 175.) My friends and acquaintances tell *me* I am tall, but I can not come up to Mr. Louis Scholl of "Southern Beedom." I was harboring a sort of sneaking feeling that I was the tallest man on the staff, but I am only 6–1½. Now, see, Mr. Scholl, with the South and the North united we could have things our own way, and ye Editor-in-Chief would have to call in all the rest of the family to prevent it. Unless it be Mr. Hasty. I don't remember having met him, to know what *he* looks like.

OUR TOIL DOTH SWEETEN OTHERS

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Bees that are Slow to Uncap Stores

There is one point in favor of the bees that A. K. Ferris condemns on page 251—bees that are slow to uncap their last slender stores of honey even if brood is starving—they are safer against winter starvation. If you insist on bees that rear brood and fill sections with that reckless enthusiasm that some choice strains of bees will, you must not let alone in the fall and say, "Guess they're all right." (I've tried that.)

Spring Dwindling—Finding Queens

I'll agree that bees, when filled with feed, are much inclined to get out of the hive and fly with it—yes, might even do so when the case was such that some would perish before getting back. Hardly think that would happen so often and to such an extent as to be a valid explanation of such a big curse as spring dwindling. C. Davenport seems to think it does.

That queen-finding of Mr. D.'s was a triumph. Four successive queens of strong colonies found in the number of seconds he names—87, 64, 109, 96. We are "all ears" to hear how it was done. Page 252.

"Untested" and "Selected Untested" Queens

So J. E. Johnson thinks that "untested queen," when in company with "select untested queen," means poor queen. Might be looked at in that way, I guess. One can not select without there being some culls. If I was to order a dozen untested queens I think that I also would rather not send to the man who *offers* to cull the nice ones all out first. Page 252.

What Mice Like and Dislike as Food

The matter of what mice like and what they don't like is not going to add one to the insoluble questions. If it is thought of enough importance to pay expenses we can of course go to work and clear it up. The experiment that Dr. Miller suggests for me, on page 308, I'll try to bear in mind; but may not have a convenient chance to try it. In such a trial mice must also be supplied with water—and that item is of considerable importance. The mouse is somewhat unique in that he will live and breed (as his cousin, the rat, will not) in situations where there is no water, and no chance to go to any. Doubtless gets desperately thirsty between driving showers and chance supplies, but succeeds in living through it, somewhat as the sheep also does. Just as the last extremities of hunger might make him eat honey, though disliking it, so raging thirst might make him swallow honey because there is considerable water in it. The sort of honey Dr. Miller mentions is just the sort to furnish the largest percent of water. Suspect Dr. M. has a place intended to be mouse-proof where the rodents get carried in—and, once in, frequent the half-ripe sections as regular drink. Watch out also lest mere digging through honey to get at the bee-bread which is underneath it misled you. Years ago I kept several stacks of sections a long time in a mousy garret; and, being surprised that so little damage was done, the subject has been more or less on my mind since. And the result is that I get confirmation, and not contradiction, out of year-by-year experience. Still, I won't deny that I'm a fellow pretty often mistaken.

White mice, I understand, are no more than a casual variety of the universal mouse. Tastes likely to be the same (though they *might* differ). Quite possibly some readers of our Journal have white mice as pets—if so, will they not try them with honey and report? At worst, any of us can offer a prize to the boys for a nest of young mice old enough to wean, rear them in a tame state, and find out all about their likes and dislikes as to food. Do us good to divide the work and test each prevalent species. The cow and the sheep are both ruminants, and so near related, yet the sheep is fond of beans while the cow will have none of them. Beans are a much more perfect food than honey, and yet many animals refuse them. So we *might* find that the deer-mouse rather likes honey, while the universal mouse abominates it. The red squirrel and the chipmunk oft get in at the bee-man's treasures. May be mistaken about them also, but incline to give them credit for standing next to the bear in fondness for honey.

Introducing Queens

I mildly object to Arthur C. Miller's style of language on page 253. He has a right to say that *in his experience* as many queens are killed on being released from cages as when run in direct. Hardly has a right to say that that is a "fact" falling under his observation. You see, his experience might be a little scanty, and mostly (perhaps unnoticed by himself) abnormal in some respect.

Sweet Clovers, Cow-peas and Jap. Buckwheat

It was quite a simmer when 30-odd bee-plants of reputation simmered down so near to none at the Texas Experiment Station. Only the two sweet clovers for waste land, and cow-peas and Japanese buckwheat for cultivation, could get a favorable mention. Well to remember that the cow-pea has numerous varieties, varying greatly in nectar-value. If the "whip-poor-will" is best then hurrah for whip-poor-will. But I suppose we Northern folks are "not in it" when cow-peas are to be raised. Page 254.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Knowing Different Combs—Finding Queens—Increase

1. How can I know the different kinds of combs?
2. How can I find queens?
3. My hives have crooked combs. Should I change the bees to other hives? If so, how? Or should we put on supers and let the combs remain as they are? We have 3 colonies and wish to increase them. What is the best way? We are working for comb honey.

MAINE.

Answers.—1. The greater part of the combs in a hive you will find to be worker-comb, made up of cells that measure 5 to the inch. Drone-comb is made up of cells that measure 4 to the inch. Generally you will find drone-comb in the same sheet with worker-comb, and where the change is made from one kind to the other there will be a few irregular cells, called transition cells. Then there is also the queen-cell, still larger than either of the other kinds, measuring 3 to the inch. More nearly correct it is to say that a queen-cell is a third of an inch in diameter; for you can never find a piece of comb made up entirely of queen-cells. Generally each queen-cell is by itself; and even if you find several queen-cells apparently close in a group, you will not find 3 such cells in the compass of an inch.

(But now I must apologize to the readers of this Journal for occupying space in answering such a question, for it should be learned from a bee book, and the space here should be occupied in telling things that are not plainly given in bee-books. You are doing yourself a real wrong in trying to get along without a good bee-book. If you can not have both, give up the journal for a time and get the bee-book.)

2. There is no patent method. Just take out the combs and look, and you will soon learn to spot the one bee in the whole colony that looks longer than any other. To be sure, you will learn through practise some little kinks that will help you; but the main thing is to lift out the combs and look over the bees. If you have never tried it, it looks like a very difficult thing to pick out a single bee among 10 or 20 thousand, but after you've tried it you'll probably think it no great trick.

3. As you seem to be entirely without experience, very likely your best way for this year is to depend upon natural swarming for increase, especially as that will help in the matter of getting better combs. Leave your hives and combs as they are until the bees swarm; hive them on movable frames provided with worker-foundation, and 3 weeks later transfer as directed in your book.

Comb Foundation Treatment for Swarms—Putting a Weak Colony Over a Strong One—Largest Honey Crop

1. Do you still use the foundation treatment mentioned on page 186 of "Forty Years Among the Bees?" If so, has it proved more successful since 1902?
2. Have you ever tried putting a weak colony over a strong one, with a queen-excluder between? If so, with what success?
3. How many pounds of honey were there in the biggest crop you ever had? What year was it?

MICHIGAN.

Answers.—1. I haven't tried it much since then; but I think I shall give it another chance this year. I think the failures that occurred were from the disappearance of the queen while confined to the lower story, and it is possible that the queen deserted because there was too little inducement for her to stay there, the foundation being hard. I think I'll try it again with foundation that has not been weather-beaten, and possibly give one frame filled, or partly filled, with comb.

2. I tried it in only a few cases, and with not the best success. Possibly it would work better on further trial.

3. In the year 1903, from 124 colonies I took 18,150 pounds of section honey, and increased to 284 colonies. Do you think you can beat that? If you can, maybe you think you can beat this: Another year I took not a pound of surplus, and had to feed a lot of sugar to keep my bees from starving.

Honey from Wild Mustard or Turnip and Fruit-Bloom—When to Use the Queen-Trap

1. Is there much honey to be gotten from the wild mustard or turnip? What color is it?
2. Is there much from fruit-bloom (principally apples)?
3. What month do you think that I should put queen-traps on the hives to catch the queens during swarming? Some of my colonies are working (March 31) in the sections in spite of the fact that it has rained almost continuously all this month.

CALIFORNIA.

Answers.—It is counted a good honey-plant, but I don't know what the honey is like.

2. I am in a region of abundant fruit-broom, but I never had a pound of surplus from it. It is all used up in rearing brood. If it came in the middle of June I should probably have had tons of honey from it. Yet I wouldn't for many dollars have it in June. The bees reared from fruit-bloom are what gather the surplus later on, and so fruit-bloom is of the highest value. In this region apple is worth all the rest put together, for it lasts two to four weeks, there being that difference between earliest and latest varieties.

3. Better not put on traps till the first swarm issues, or until you think there is danger of its issuing. That may not be the same month this year that it was last.

Hardly seems you and I are living in the same country, does it? March 31 your bees are working in sections and mine were yet in the cellar.

Painting Hives—Planting Willow—Preparing Bees for Winter

I have 46 colonies of bees, and winter them on the summer stands. I use all chaff hives—18 9-frame and the rest 11-frame. I had decided to paint the hives black until to-day I am in doubt whether I should, as I have 12 9-frame hives painted dark and the rest are all painted white, and in the hives that are dark I found the chaff cushions were all wet and the bees suffered more or less, while the rest were all dry and the bees in better shape. I thought the dark color was better in winter, as it absorbs more heat.

1. Would you advise me to paint the hives black, or is the white better in winter?
2. I have Italian bees in those 9-frame hives. Does that make any difference?
3. The chaff cushions I use are pretty thick, about 3½ to 4 inches, with corn-cobs across the brood-frames. Are they all right?
4. I would like to plant lots of willow trees, of the yellow-brush kind. Bees work on them very much. Do they yield honey?
5. In preparing bees for winter, if I remove 5 frames from the rood-chamber of a 10-frame hive that contain the most honey, and

place them directly over the remaining frames, and fill that space on the side with chaff cushions, and also a cushion on the top, which would bring it pretty near in shape like the old-style box-hive, in which it is claimed bees wintered best, how would that do?

WISCONSIN.

ANSWERS.—1. I must confess I don't know what to advise. It has been the general custom to paint hives white, but of late it has been advised to have double-wall (not single-wall) hives painted black, so as to get more heat from the winter sun. I don't understand why your black hives should have fared worse than the white ones; but facts are stubborn things, and I rather lean to the opinion that your better plan is to paint white.

2. I hardly think so.

3. Yes.

4. G. M. Doolittle is the man that knows all about willows, and somewhere he has told us about the different kinds, but I don't remember where. If I remember correctly, some of them yield honey, some pollen, and some both. Perhaps he will be kind enough to tell us briefly again.

5. I hardly think you would gain anything by it, but I don't feel any too sure. I wish you would try the experiment and report the result.

Foul Brood

I send under separate cover a sample of brood-comb. Please let me know what it is, foul, chilled or black brood. I have seen foul brood exhibited by Mr. N. E. France, but the smell got away from me, so I can not tell what this is. This sample is taken from a colony that died the past winter. If this is foul brood, let me know when I should cure it; also if I can use the frames when there is no foul brood in other hives?

ILLINOIS.

ANSWER.—I am not an expert in foul-brood matters, but there can be little doubt that you have the real thing. Being a member of the Northwestern Association, you are thereby a member of the National, and so entitled to consult its General Manager N. E. France, of Platteville, Wis., who is a foul-brood expert. He will probably not advise you to undertake a cure until there is plenty for the bees afield. In the meantime take every precaution not to let bees of healthy colonies get at the combs left by any dead colony that had foul brood. That would be to spread the disease. Hives that have had foul-broody colonies may be used again, but don't think of using the frames. The safe thing is to burn them.

Using Combs With Honey from Dead Colonies

I have a number of nice, straight combs wired in Langstroth frames, that are considerably filled with honey. The honey in some of them is partially candied; in others wholly granulated; and in still others the honey is yet in a liquid state. These combs are from colonies lost a year ago and two years ago.

1. Would these be suitable to give to colonies for feeding young bees this spring, or for use in hiving swarms or in forming nuclei?

2. Will the bees use the candied honey?

3. How can these combs be cleared of the candied honey without loss?

4. Would it be advisable to strain out this honey and melt up the combs?

NEW YORK.

ANSWERS.—1. Yes.

2. Yes, but they may throw out some of the grains.

3. Take a sprinkler and sprinkle water on each side of a comb before giving it to the bees, and that will help them use up the granules. A few days later, if dry granules seem to be present, sprinkle again.

4. No, it will be much better to save the combs in the manner indicated in the previous answer. Indeed, if the combs are not sprinkled at all, and some of the grains thrown out, that will be better than the mussy and wasteful plan of melting.

Making Increase With Home-Made or Box Hives

How can I get increase by dividing when I have only home-made hives, without any frames or anything in them?

MINNESOTA.

ANSWER.—I don't know of a satisfactory way better than to drum out a swarm. Possibly you might succeed in this way: In the busiest time of day—preferably when the young bees are in the midst of a play-spell—remove a hive from its stand and put an empty hive in its place, having a caged queen in this hive. Break out a piece of comb from some hive to put in the empty hive, as an inducement for the bees to stay, the bees entering the hive as they return from the field.

Although it is not very practicable to divide with box-hives, there is a way by which you can make sure of other swarms after the first swarm issues. It is simply to take the old colony, as often as it swarms, and put it in place of another strong colony, always setting the swarm in the place of the old colony that has swarmed.

Reports and Experiences

High or Low Hive-Entrance.

I notice the question of a high-entrance with reference to bee-trees. I have been a bee-hunter for 30 years, and must say it is not what the bees will go into you need to worry about, but what they won't go in. When I found bees in a tree that were obliged to work below the entrance I got very little honey, and of a poor quality, and below the bees was rotten wood, dead bees, and other filth which would have a bad effect on the bees. Yet where their work was above the entrance I found things in a far better condition. So I should favor a low entrance, with plenty of ventilation.

I have an apiary of 60 colonies. I did not get any surplus in 1905. It was the poorest season ever known in this part of the state. Bees are wintering in good shape so far. We put them in the cellar.

G. S. Blackman.

North Freedom, Wis., March 8.

Entrance at Top of Brood-Chamber.

It is claimed that an entrance at the top of the brood-chamber has the effect of increasing the yield of honey. This may be true. An old fellow, while looking over my hives in 1872, said, "If you'd bore a lot of holes just under your top boxes, you'd get a lot more honey." I was one of the know-all-about-bees fellows, and it went out at the other ear. But I don't know so much as I used to, and now suspect there is something in it. But why? Mr. Hasty, on page 214, has his guess, and here is mine: It's in the relief of the ventilators. Excessive labor is at the expense of strength and life. It takes a large force of bees and a good deal of hard work to force a continuous stream of air, night and day, from a bottom entrance up through the whole circuit of hives and supers, and out again at the bottom. You see, they must overcome gravity both ways. Let them use those little wings to carry them from the hive to the clover blossoms. Possibly, too, the air may be a little drier at night at 14 inches from the ground than at 4 inches. Ripening, you know.

My guess does not look big enough all by itself, and if Mr. Hasty is not afraid of getting into bad company, we will just combine and "take the whole cheese."

E. W. Diefendorf.

New Lebanon, Mo.

Rendering Beeswax in a Small Way.

I take a wash-tub 2 feet in diameter, with a ½-inch hole close to the bottom and a long plug to stop it up; then raise the tub a few inches from the ground. Bring the wax and slumgum to the boiling point, cover the tub with wire window-screening with a frame around it; then dip the wax and boiling water on the framed screen, and the hot water carries the wax through. I repeat this three times, using 5 gallons of water to 1 of slumgum. When the tub is nearly full, draw the water off near the bottom.

F. M. Wagner.

Quincy, Ill., March 29.

Favors the Full-Weight Section.

I have read with interest the articles of Dr. Bohrer, L. V. Ricketts, and others, advocating a full-weight section. I endorse all they have said against the use of light-weight sections.

I see that Mr. Ricketts thinks (page 252) that because Mr. Hasty won't join his procession he will have to go alone. It seems that he doesn't consider Dr. Bohrer, myself, and the others, who see this matter in the same light he does, "good company." Pray, can't we then set up a little company of our own—a kind of a side-show, so to speak?

I think I was the first one publicly to condemn the use of light-weight sections. In my book, published in 1903, page 53, I sounded the alarm on this subject. But when Mr. Ricketts proposes to adopt a section 1⅞ inches thick, I emphatically object. There are too many objections to combs over 1⅜ inches thick to adopt the thick ones he proposes. Why not make our sections 4¼x5x1⅜? Such a section will hold (average) a full pound.

I know he will say that such a section cannot well be used in the hives now in use. Then change the hives. "Two wrongs do not make one right." No use to go on to all eternity with wrong size hives and sections simply to accommodate the "standards" that are now in use. Make them over. Remodel them to suit up-to-date conditions, and let all future hives be made right. Yes, "right will win."

T. K. Massie.

Tophet, W. Va.

Brood-Rearing in Winter.

On page 179 it speaks of brood-rearing in winter. This year Jan. 20 was very warm; in fact, it was 70 degrees, the thermometer hanging on the north side of the house. As the bees were flying freely we examined several hives and found considerable brood in all of them, and some of the stronger ones had as much as half of the comb full, with a few cells in the center that had hatched out, so those eggs surely were laid the last days of December.

Last year we had a very cold winter, with a warm spell about the first of February. In examining the bees to see how they were getting along, I found considerable brood, some of it capped over, showing that the eggs were laid in the bitter cold weather of the month before.

My bees are wintered on the summer stands, and while I have been a bee-keeper only a few years, I have never lost a colony of bees from any cause. Wintering holds no terrors for us, and this is how we do it:

We put some extra hive-bodies on the strongest colonies, with full sheets of comb foundation, and when these are capped over, take them off and save them for late or weak colonies that have not stored enough to winter on. Last year we saved some combs of clover honey, and the bees on them are doing better than those wintering on fall honey. We put an empty super on with a Hill device over the frames, and a heavy burlap blanket over that, and a cushion as large as the super will hold full of planer-shavings on top, and we find if the cover is raised the least bit it keeps the moisture from condensing in the cushion. Our 45 colonies taken through this way are in splendid shape now, though they have consumed more stores than last winter, when it was colder. Bert Green.

Worthington, Ind., March 3.

Packing Bees for Winter.

I notice that some bee-keepers keep bees in cellars, and some in regular caves. I think I have just the plan in this part of the country. I pack them tight in dry-goods cases about 2½ feet square, as near as I can get them, and put an empty super on top and quilt them with thin burlap. I put 2½-inch strips across the top, follow with papers on top of them, and then fill up with forest leaves, and cover up. My bees had two flights in February. They came out fine and strong, with young bees. I have 17 colonies. I realized a pretty fair crop of honey. One colony stored 64 pounds of section honey, which I sold for 20 cents per pound. All told, I had 311 pounds. I am looking for a fair crop next summer.

C. A. Mangus.

Altoona, Pa., March 9.

Suit to Protect Against Bees.

As the time is close at hand when those who are afraid of bee-stings will need some protection, I have a plan that will keep the bees at bay, so that they cannot sting any one.

Take hoop-skirt steels and form a union suit, by commencing at the throat and making the collar around the neck. Leave it open in front and widen to the shoulder around the back and breast and down to the waist, gradually drawing in the shape of the body. Then widen out over the hips, and then form the legs on to the ankles, with arms so that it can be slipped over a light union suit, being open in front and fastened with a clasp similar to children's overshoes. Then, by wearing a shirt-waist or work-shirt and a pair of overalls over the steel suit, the bees cannot get at you, with veil and gloves on. If some manufacturers would make a few wire suits and send them to the supply houses, they could be had by those who need them, who can then handle the crossest bees and not get stung by them. None would know whether they were men or women, and whose odds is it if they attend to their own business?

I am a constant reader of the American Bee Journal, and like it very much. W. P. B.

CONVENTION NOTICE.

Western Illinois—The semi-annual meeting of the Western Illinois Bee-Keepers' Association will be held in the County Court Room, in Galesburg, on Wednesday, May 16, commencing at 9 a.m. and lasting all day. Messrs. C. P. Dadant and J. Q. Smith have promised to be present and contribute to the success of the meeting. Our meetings have been good, but we hope to make this one better. Galesburg has good train-service, and all bee-keepers in this part of the State should not fail to come. Come, and bring your wives with you. E. D. Woods, Sec.

Galesburg, Ill.

Queens Free!

To the first 50 persons sending us the names and post-office addresses of 10 or more bee-keepers of their acquaintance, we will give one Select Untested Italian Queen absolutely free. Queens to be delivered after June 1st, and only 50 on this offer. Send on your names. We want bee-keepers to know about "Rose Lawn Queens." Address,

ROSE LAWN APIARIES,
1335 N. 24th Street, - LINCOLN, NEB.

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Quality and Quantity Guaranteed

And the price—CAN IT BE BEAT?
Order Now.

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FARM WAGONS
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$17 75

Every farmer needs a good low down wagon—it saves the back-breaking labor of loading and unloading a high wheeled wagon. Saves half the high lifting—the **top half**—easier to load and unload; easier on the team. These two wagons are without doubt the best low down wagons ever offered at such low prices—**freight paid**, and will save you money every day on the farm. They are built for hard work and to stand the wear—guaranteed for five years with a strong, binding guarantee. Order the wagon that suits your purpose best and if it is not the best low down wagon bargain you ever saw, we will take it back and **refund every cent you paid for it.** Our wagon catalog gives a full and complete description of these wagons and many other wagon and buggy bargains—we save you money on everything in the vehicle line. Write today for catalog and full information about these two low down wagons. Don't buy until you get it. Our 1,000 page catalog and buyers guide ought to be in every farmer's home.

Our original plan of co-operation saves you an extra 10 per cent on everything you buy. Ask us to explain our plan to you and tell you how it works.

MICHIGAN TRUCK
$25 00

Co-operative Society of the
National Supply Co.
Lansing, Mich. Chicago, Ill

Tennessee-Bred Queens
All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8 00	$ .95	$ 5 00	8.50
Select Untested	1.00	5 00	9.00	.75	4.25	8 00	1.10	5.50	9.50	1.20	6.00	10 00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8 50	15.50	1.70	9.00	16.00
Select Tested ..	2.00	10 00	18 00	1.50	8.00	15.00	2.10	10.50	18 50	2.20	11.00	19.00

Straight 5-band Golden Breeders.......	$10.00
Select Golden Breeders	3.00
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" Carniolan "	3.10
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1-frame Nucleus (no queen)	$1.50
2-frame " "	2 00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive........................	6 00

Bees by the pound in light shipping-boxes, $1.00 per pound.
Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf JOHN M. DAVIS, Spring Hill, Tenn.

Increased Business Compels Larger Space

So we have just doubled our capacity in the building at 141 Ontario Street, where we carry a full line of **POULTRY SUPPLIES** and

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Catalogs on application. **Orders filled promptly at Factory Prices.** Beeswax wanted—28c cash or 30c in trade.

Italian Bees in modern hives with select Queens for sale. Also Pure Italian Queens.

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H. M. ARND, MGR. (Not Inc.
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(Phone North 1559.)

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MAINLY FOR QUEEN-BREEDERS

INCUBATOR AND BROODER allow the bees access to the cells and queens at all times. (Patented July 7, 1903.) Price, $5.00.

TWIN NUCLEUS AND MATING BOX has control of the queen by a 3-hole wheel on the outside, with one hole wire-screened, one hole covered with queen-excluding zinc, and the third hole to regulate the size of the entrance. (Patent applied for.) Price, $1.00.

CYLINDER CAGES postpaid, each, 10 cents. QUEEN-CELLS, 100 mounted, with sample of Cylinder Cage (sent postpaid,) for 75 cents.

BREEDING QUEENS, after May 1st—Italian, Imported and Golden Italian, and Carniolan—$2.50 each. Orders booked now and filled in rotation. Send for free Circulars. 7Dtf **ARTHUR STANLEY, Dixon, Lee Co., Ill.**

Mention Bee Journal when writing.

An Italian Queen Free

In May or June, 1906,

To Regular Paid-in-Advance Subscribers Only.

We wish to make a liberal offer to those of our regular readers whose subscriptions are paid in advance. It is this: We will send you FREE by mail, in May or June, 1906, an Untested Italian Queen for sending us $1.00 and the name and address of a NEW subscriber to the American Bee Journal for a year. Or, to yourself, a Queen and Bee Journal a year—both for $1.50.

We are booking Queen orders for May and June delivery. Will you have one or more? These offers ought to bring in many orders. Our Queens are reared by the best queen-breeders, and give satisfaction.

Address,
GEORGE W. YORK & CO. 334 Dearborn St., Chicago, Ill.

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Backed by 14 Years of Successful Use by poultrymen all over the world. No guesswork. They are automatic in regulation and ventilation. Fully guaranteed to give YOU satisfaction. Send for free book. **BANTA-BENDER MFG. CO., Dept. 24, Ligonier, Ind.**

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WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**
M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

FOR SALE

2 Colonies of Bees—Hybrids—both strong—price reasonable. Address,
C. W. CHANDLER,
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$12.80 For 200 Egg INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day
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Tin 4-in. Smoke Engine	3½-inch	8-inch	2½-inch	2-inch Wonder
$1.50.	$1.10.	$1.00.	90c.	65c—per mail.

Sent on receipt of price per mail.
T. F. BINGHAM Farwell, Mich.

OTISVILLE, PA., Jan. 18, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

Mention Bee Journal when writing.

DOOLITTLE & CLARK

Are now booking orders for **QUEENS.** PRICES:

Untested—1, $1; 3, $2.50; 12, $9. Select Tested—1, $1 50; 3, $4; 12, $14. 1905 Breeders, $2.50. Select Breeders, $5. Extra-Select Breeders, $10. Two-frame Nuclei (without queen) $2.50; 3, $7; 12, $25.

Borodino,
Onondaga Co., N. Y.

17Dtf Please mention the Bee Journal.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.
GEORGE W. BARNES,
17A26t 138 N. Pleasant St., NORWALK, OHIO

Italian and Caucasian

BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in April:

One Untested Queen.....	$1.10
" Tested Queen.......	1.65
" Select Tested Queen	2 20
" Breeding Queen.....	3 30
1-comb nucleus (no queen)	1.50
2 " " "	2 60
3 " " "	3.20

Untested in May; all others ready now from last season's rearing. Safe arrival guaranteed.

For prices on Caucasians and larger quantities, and description of each grade of queens, send for free catalog. **J. L. STRONG**

16Atf 204 E. Logan St., Clarinda, Iowa.

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CAUCASIAN QUEENS!

Caucasian Bees are very gentle. They are easy to handle and are, therefore, suited to beginners, timid bee-keepers and to those who keep bees in town. If you want to try this race, or if you want to improve the stock of your Italian Bees, write to

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2Atf YORKVILLE, ILL. R. F. D.

Bees, Queens and Bee-Supplies

We manufacture standard dovetailed bee-hives and supplies, cheaper than you ever bought before. Our Queens and Bees stand at the head in quality. Untested, 75c each; $4.25 for 6, or $8 per doz. Tested, $1.25 each; $12 per doz. Select Tested, $1.50. Special prices to dealers in large lots on application. State Agents for **Dittmer's Foundation.** Catalog free.

THE BEE & HONEY COMPANY
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For Queens Send to JOHN W. PHARR Berclair, Tex.

He will furnish at the same prices as last year: Tested, $1; Untested, 75c; 5 for $3.25; 10 for $6; 15 for $8.25; 25 for $12.50; 100 for $45. He breeds Goldens, Carniolans, and 3-Band Italians. Also 1, 2, and 3 frame Nuclei and full colonies. Prices given on application. Pharr pays the freight, and guarantees satisfaction on all Queens. To do justice and judgment is more acceptable with the Lord than sacrifice.—(Prov. 3:21.) 5Atf

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Select Untested, $1; 6 for $5; 12 for $9. Tested, $1.50; 6 for $8. Best Breeders, $3.50. Safe arrival guaranteed. **W. A. RAILS.**

7D6t ORANGE, CALIF.

Rose Lawn Queens

Italians—Caucasians—Carniolans

Line bred from individual types for color, gentleness and honey-producing. A scientific queen-rearing plant; standard prices and fair dealing. Our "**Pure Gold**" strain of Italians are unsurpassed for gentleness and fertility. We offer best facilities for prompt shipment to the Middle West. Send for catalog. **ROSE LAWN APIARIES,**

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We publish a finely illustrated book that is full of telephone facts. It tells all about telephones for farms, the kind to use, how to organize a farm telephone company, how to build the lines and where to buy the best telephones. Free if you ask for Book 80-F.

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Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. **Catalog Free.**

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Such is the kind of Hives we make, and such is the kind you get when you buy from us.

"It is a cinch" that we make lower prices than you can get from any dealer, as you save the middleman's profit when you buy direct from the manufacturer.

We are Manufacturers, and sell direct to the consumer.

Send us a list of your wants, and let us make you prices.

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We carry a complete stock of "Mandy Lee" Incubators and Brooders. Don't fail to investigate these machines. The more you know about incubation, the more you will like the "Mandy Lee" Incubator. The "Mandy Lee Brooder" is a complete old hen, all but the "cluck." Our free incubator catalog describes them.

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is covered by two Patents. With this wonderful invention the cost of making Sections may be reduced to $1.15 per 1000. If such Machine will interest you, write for further information. Do not write about it unless you mean business.

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Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. SPECIAL DISCOUNTS now. Write to-day. Address,

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Muscatine Produce Co., Muscatine, Iowa.
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Prime Original Carniolan Alpine Bees

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All our Bees are imported directly from our own apiary, situated among the Julian Alps in Carniola, Austria. Orders will be booked in rotation. 17A2t

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FOR SALE

50 Colonies of Italian and Carniolan Bees in 8-frame hives, all nearly new and all in good condition. One colony, $5.50; from 5 to 10 colonies, $5 each. WM. J. HEALY,
16A5t MINERAL POINT, WISCONSIN.

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Italian Bees for Sale

We can furnish Nuclei and full colonies of Italian Bees (f.o.b. 100 miles west of Chicago by express) at these prices:

FULL COLONIES in 8-frame hives, $5 50 each; in lots of 5 or more at one time, $5.25 each. Full colonies in 10-frame hives, $6 each; in lots of 5 or more at one time, $5.75 each.

Nuclei (3 frame) with Tested Queen, $3.25 each; in lots of 5 or more at one time, $3 each. (Nuclei ready for delivery about May 10; Full Colonies any time now.) Orders filled in rotation. Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

☞ J. G. Goodner, of this State, writes me that he "prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

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☞ Passengers east from Buffalo to Fort Wayne, Findlay, Fostoria, Cleveland, Erie, Buffalo, New York City, Boston, and all points east, will consult their interests and find advantage in selecting the Nickel Plate Road east from Chicago. Three through trains are run daily, with through day coaches to New York City, and modern Pullman sleeping-cars to destination. Rates always the lowest, and no excess fares are charged on any train, for any part of the journey. Modern dining-car service, with individual club meals, ranging in price from 35 cents to one dollar; also meals a la carte. Ask for tickets via the Nickel Plate Road. Chicago depot, La Salle and Van Buren Sts., the only station in Chicago on the Elevated Loop. Chicago City Ticket Office, 111 Adams St. Detailed information may be secured by addressing John Y. Calahan, General Agent, 113 Adams St., room 298, Chicago. 1—12A6t

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Our large, illustrated Price-List of Supplies free on application. Address,

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Headquarters for Bee-Supplies

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Complete Stock for 1906 now on hand.

FREIGHT-RATES FROM CINCINNATI are the LOWEST, ESPECIALLY for the SOUTH as 'most all freight now goes through Cincinnati.

Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

Let me book your Order for QUEENS bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI, OHIO.
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

Chicago, April 20.—There is very little comb honey on the market, and as usual at this season of the year the demand is very limited. There is no change in the prices obtainable from recent quotations. Choice white comb will bring 15c when wanted; other grades are of uncertain value, ranging from 10@14c per pound. Choice white extracted, 6½@7c; amber grades, 5½@6½c. Beeswax, 30c per pound.
R. A. Burnett & Co.

Toledo, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
Griggs Bros.

Indianapolis, March 24—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, April 10.—The season is now well advanced. There is very little call for comb honey. Almost all the choice grades have been cleaned up. The prices range a little firmer for what small quantities of the fancy grades are still held over. The other grades of comb honey are still a drug on the market. We quote: Fancy white comb, 16@17c; amber, 12@13c; dark, 10@11c. Extracted, fancy white, 7@8c; amber, 6@7c. Beeswax, 28c.

We are producers of honey and do not handle on commission.
Wm. A. Selser.

New York, March 19.—Demand for comb honey is fair, especially for the better grades, and fancy white is selling at from 14@15c; No. 1, 13c; light amber, 11@12c; no more demand for dark comb honey. Extracted is in good demand, mostly California, at unchanged prices. Beeswax is firm at from 29@31c, according to quality.
Hildreth & Segelken.

Cincinnati, April 4.—There is no material change in the honey market since our last report. The demand does not come up to expectations, which, in all probability, is due to the inclement weather of the past month. We continue to quote amber in barrels at 5¼@6½c. Fancy white in crates of two 60-lb. cans at 6½@8½c. Choice yellow beeswax 30c. delivered here.
The Fred W. Muth Co.

Denver, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
The Colo. Honey-Producers' Assn.

Kansas City, March 16—The supply of comb honey is not very large. Demand is light, best 24 section white selling at 3.25 per case, amber at 25@50c per case less. Extracted, white, 6½c per pound; amber, 6c. Beeswax, 25@30c. We look for an increased demand in the near future.
C. C. Clemons & Co.

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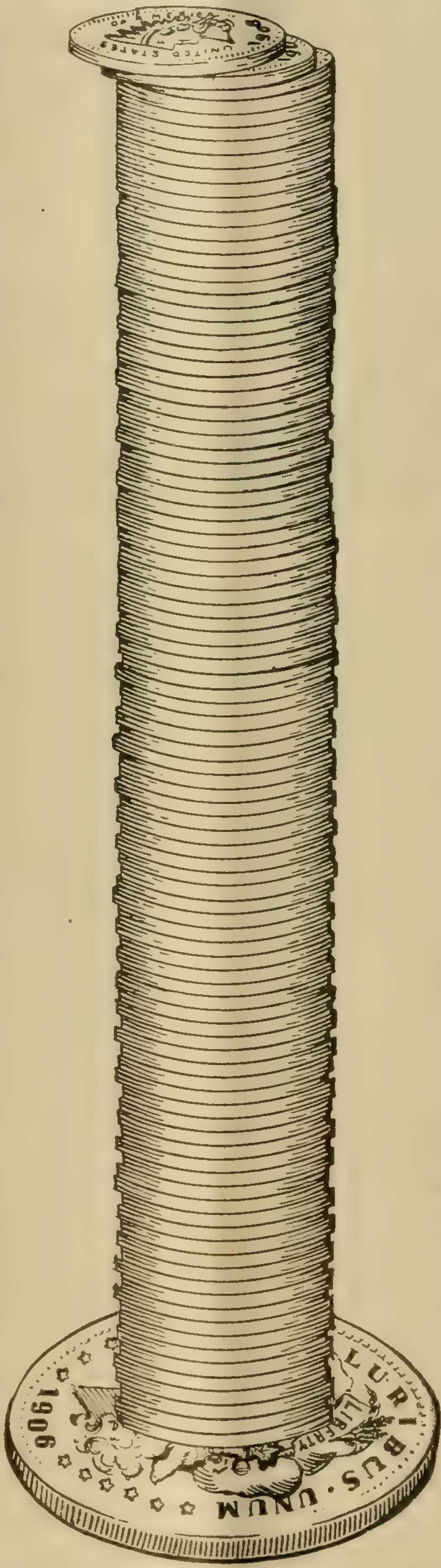

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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., MAY 3, 1906 No. 18

S. T. Pettit,
A Leading Canadian Bee-Keeper.

J. E. Johnson, President,
Western Illinois Bee-Keepers' Association.

Apiary of S. L. Mottinger, Plainfield, Ill.
(See page 382)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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Contents of this Number

Illustrations—

Apiary of S. L. Mottinger....1st Page
Johnson, J. E....1st Page
Pettit, S. T....1st Page
Dempsey Super (3)....382
"Marble Apiary" of S. T. Pettit....388

Editorial Notes and Comments—

Brood to the Top-Bar....381
Chilled Brood Not a Cause of Foul Brood....381
Improvements in the American Bee Journal....381
Queen-Breeders....381
Reading the Bee-Papers....381

Miscellaneous News Items—

Apiary of S. L. Mottinger....382
Dempsey Super....382
San Francisco Earthquake and Fire....382
Yon Yonson and the North Pole....382

Contributed Special Articles—

Brown-tail Moth....384
Controlling Increase....385
Great Moth Fight—"Good Candy"....383
Gypsy Moth....384
How to Control the Swarming of Bees....383
Insect Quarantine....384
Parasites to the Rescue....384
Rearing Queens....385
Schulz (Mr.) and His Candy....384
Sections, Separators, Supers and Section-Holders....384

Our Sister Bee-Keepers—

How "We" Introduced a Queen....385
Keeping Bees With Poultry....386

Southern Beedom—

Nourishment of Bees....386
Weather and the Honey-Flows....387

Mr. Hasty's Afterthoughts—

Caucasian Bees in West-Central Asia....387
Dadant's Few Swarms....387
Large Frames....387
Lubricant for Rietsche Foundation Press....388
Miller (Dr.) vs. F. Greiner on T-Supers....387
Temperature Inside Winter Cluster of Bees....387
When Bees Gather Propolis....388
Winter Space Too Crowded With Bees....388

Canadian Beedom—

Emptying T-Supers by Gravitation....388
Fastening Hives Together for Moving....389
Pettit, S. T....388
Value of Bees as Fertilizers of Blossoms....388
Wintered Fairly Well—Late Season....389
Work in Harmony With the Farmers....388

Dr. Miller's Question-Box—

Danzenbaker Hive....389
Is Smartweed Honey Peppery?....390
Italianizing Bees....389
Italianizing Colonies....389
Rendering Wax....389
Shaken Swarms....389
Sweet Clover on Blue-Grass Ground....389
Tan-Bark for Bee-Yard and Walks....390
Use of Queen-Excluding Zinc....390
What Determines Kind and Sex of Bees?....389

Reports and Experiences—

Away Down in Florida....390
Awful Winter on Bees....390
Bees Making Things Hum....390
Bees Not in Good Condition....390
Clover Seems All Right....390
Good Results in Wintering....399
Heavy Loss in Wintering....390
Poor Crop in 1905....390
Variable Spring....390

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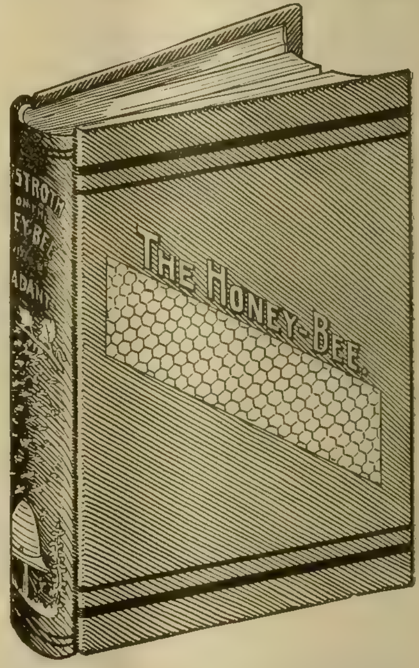
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RALPH W. BOYDEN.

L. W. BOYDEN.

AT NEW YORK

Mr. L. W. Boyden, formerly with Chicago House, conducts our New York branch. Through this branch passes much of our large export trade. Mr. H. M. Selser is the able assistant of Mr. Boyden in this branch. Calling at our branch at 44 Vesey Street you will find Mr. Boyden ready to supply you with anything you may need.

The Connecticut Mutual Life Insurance Company.

HARTFORD, CONN., July 21, 1905.,

Mr. L. W. Boyden, Manager, The A. I. Root Co., New York, N. Y.

DEAR SIR:—The Danzenbaker super came duly to hand yesterday, and your promptness impels me to acknowledge its receipt with thanks. It is pretty fine to be able to drop a letter into the mailing-tube here in the office, and then in a few hours have hive parts placed alongside of my desk.

"It is fine to be able to get the Root Goods in New York, for I like to trade with your company. Heretofore I have usually sent to agents farther off. My orders have not been very large, so far, but it is well nigh impossible not to take a lively interest in bees if one happens to read "Gleanings," as I do, and I expect to keep many more colonies than I do now." JAS. A. SMITH.

AT CHICAGO

No one needs to be told of the advantages of Chicago as a shipping-point to the Central States. With its many competing freight and express lines rates are very low. Mr. Ralph Boyden, assisted by Mr. E. W. Pease, with office and warehouse at 144 E. Erie Street, are entirely competent to answer any questions regarding bees or Root's Goods. When in Chicago be sure to call and you will find a hearty welcome 'Phone North 1484.

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Mr. Wm. A. Selser, the manager of our branch at 10 Vine Street, is one of the best-known bee men in the United States. Our customers will find him an exceedingly agreeable man to deal with. Combining his knowledge of conditions and Root's Goods and staff of competent assistants, you will find your interests taken care of in the best possible manner. Our Philadelph a branch has long been popular with the bee-keepers of Pennsylvania and South. Our stock carried here is practically complete.

WM. A. SELSER.

H. G. LA RUE.

AT WASHINGTON

From this point run the main lines of water and railroads to the South Atlantic States. Bee keeping in this section is rapidly coming to the front. Mr. H. G. La Rue, our manager, at 1100 Maryland Ave., S. W., is a bee keeper of considerable experience. He is also a graduate of one of the best business colleges in Ohio, and is prepared to conduct this branch on up to date principles and in a perfectly satisfactory manner.

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AT ST. PAUL

Making bee-supplies is one thing and distributing them is another. One is as important as the other. Mr. J. C. Acklin, at 1024 Mississippi Street, carries a complete line of our stock; gives prompt shipment and full satisfaction. Mr. Acklin is a practical bee-keeper, and you will find him very pleasant to deal with.

AT SYRACUSE, N. Y.

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(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor CHICAGO, ILL., MAY 3, 1906 Vol. XLVI—No. 18

Editorial Notes and Comments

Chilled Brood Not a Cause of Foul Brood

In the Swiss Bulletin, a Mr. Fleury has advanced the theory that foul brood is caused by the bad habit of some apiarists of spreading the brood in spring and causing it to die of cold. He thinks this is an inducement to the production of foul brood, which he calls "le cauchemar des apiculteurs"—"the bee-keeper's nightmare." This has caused a general protest among the better informed, who assert that it is out of the question to hold that foul brood may be caused by the accidental death of the brood. This is right. Foul brood has for its origin *bacillus alvei*, and where there is no bacillus there is no foul brood.

Brood to the Top-Bar

Some time ago Editor Root claimed as a great advantage for shallow frames that the combs would be filled with brood clear to the top-bar, while with deeper frames there would be one or two inches of honey next to the top-bar. Dr. Miller said his Langstroth frames often had brood to the top-bar. The following Stray Straw of Gleanings seems to show why the observation of the two men should be so different:

> E. F. Atwater, in the Review, has given, perhaps, the key to something that has been a puzzle to me. Editor Root said that, with Langstroth frames, there was an amount of honey in the upper part of the combs that I knew was not to be found in mine; for often my combs have brood clear up to the top-bar. Mr. Atwater says that foundation sags in the deep frames, at the upper part, "to such an extent that there was very little brood reared within perhaps 2 inches or more of the top-bar." With horizontal wiring I can easily believe that would be so. With vertical foundation splints in my own frames there is no more sagging at the top than bottom, giving me, in that respect, the advantage of shallower frames.—[Score a point in favor of splints in place of horizontal wires; and I am not sure now but it was a mistake to change from vertical to horizontal wires, for which I was largely responsible, if I mistake not.—EDITOR.]

Improvements in the American Bee Journal

It is a desirable thing at any time to have suggestions from members of the American Bee Journal family looking toward improvements. "What will make the Journal better?" is a live question at this end of the line, and much thought is given to it, sometimes in "the wee sma' hours" of the night. One trouble in the case is that there are so many view-points to be considered.

One correspondent has written that when the volume is bound at the end of the year a smaller page would make a more convenient volume to handle. That is true. It would also be more convenient to handle if there were a smaller number of pages. But who wants less of it in the year? If the size of the page were less, and the number of pages increased, the thickness of the annual volume would be still more objectionable than at present. The more important consideration, however, is that with the page of present size the subscriber gets more Journal for his money than he would with a smaller page. A number of the most popular magazines—Ladies' Home Journal, Success, and others—have a larger page than this Journal, a thing that would not be without weighty reasons. Then, it spoils uniformity for library purposes, if the size of page is changed.

A correspondent has written that he would like to have all the advertisements on separate pages, so they might be left out in binding. On the other hand, here comes the following note:

> MR. EDITOR:—I am not a publisher, but I know enough about the publishing business to know that it is to the interest of the readers of the "Old Reliable" to have its advertising department in as flourishing a condition as possible, and I have wondered why you continue to have your advertisements segregated so much as you have. Some of the best magazines have advertisements on the reading pages, and, of course, an advertiser would in general prefer an advertisement so placed. But I am more interested in the reading than the advertising, so I ought not to complain, especially so long as you are giving us so good a paper. SUBSCRIBER.

Is it really a desirable thing to have the advertisements left out in binding? Certainly not all bee-keepers would think so. Frequently it is desirable to look up some matter of the past upon which light may be found in the advertisements rather than in the reading matter. No little of the history of bee-keeping is contained in the advertisements.

It is a matter for congratulation that at the present day there is no longer any complaint that the Journal is not entirely occupied with reading matter. Intelligent readers understand that in the long run more advertising means more reading. While this Journal has more advertising space than formerly, it also has more extra pages than ever.

Reading the Bee-Papers—Queen-Breeders

Editor York gives us some good advice on page 117, relative to reading the bee-papers. As I notice occasionally where some subscriber orders his paper stopped because he has no time to read it, I always draw on my imagination that there must be something decidedly wrong. How a subscriber can order his paper stopped simply for this reason is more than I can understand.

A few years ago we heard so much about the book farmer, and it was said that the farmer who sought knowledge through literary sources, and did not follow the steps of his ancestors, would turn out a failure. But all this has passed, and the time has arrived when if we want to get anywhere near all out of our business we must read about it. It has been said that "the man who reads is the man who succeeds," and I honestly believe there is a lot of truth in it.

One thing about it is almost certain: that the reading man is the thinking man, and it is the thought put into a business that brings success. There is nothing that will start us thinking so much as reading, and for this reason bee-keepers should read as much as possible. Whether you believe it or not, I am of the opinion that a great deal of the inferior honey found on our markets to-day can be traced to bee-keepers who do not read. By all means, subscribe for the bee-papers, read them, think over what you read, put your thinking into practise, and success can not be held back.

On page 97 mention is made relative to dishonest queen-breeders. On examination of a colony of bees during the month of September, last year, I discovered the colony queenless and much dwindled in bees. I sent an order for a queen to a regular advertiser in this Journal, and asked that the queen be shipped as soon as possible, and in 48 hours after I sent the order I received the queen. The colony containing this queen is as strong as any in the apiary. I mention this fact to show that there are some honest queen-breeders. It is well to remember, as we go along, that there are good and bad in all kinds of business, and it is certainly all wrong to imagine that there are no honest men engaged in the business. GRANT STANLEY.

Nisbet, Pa.

This is, indeed, an age of reading. Mr. Stanley has put the matter in a most clear and convincing way. There is nothing to be compared with reading and thinking for the improvement and uplift of any business or industry. And, then, good reading is so marvelously cheap these days. There is really no excuse for any bee-keeper not having a sufficient quantity, and of the right sort of reading, when he can get a copy like this for less than a 2-cent postage stamp!

Yes, of course, there are honest and reliable queen-breeders. The fact is, practically all of them who advertise are so. We feel that we can say that any whose offers are found in our columns are all right. If not, we want to know it.

But we have received complaints before the queen-breeder was given an opportunity to make things right. We do not think such procedure fair. Everybody makes mistakes, and those who have made them, when discovered, should be notified, so that they can rectify them. Then if a satisfactory adjustment is not promptly forthcoming, it will be time enough to complain to the publishers.

Miscellaneous News Items

The San Francisco Earthquake and Fire, of course, have been known to everybody throughout the country long before now. The first word we had direct from any one we know in that locality was received on April 25, from Mr. W. A. Pryal, who lives in Oakland, Calif., but was doing business in San Francisco. From what he says on a postal card dated April 21, we take the following:

> Three-fourths of the city is burned. The fire was hell. The earthquake's damage could have been repaired in a month or less, except, perhaps, in a few cases. Our home here did not suffer—no chimneys down, no glass broken, nor walls cracked, and we are less than 10 miles from San Francisco. The city will be rebuilt, but of smaller buildings. W. A. PRYAL.
>
> Oakland, Calif., April 21.

The Dempsey Super.—This is a super invented by W. W. Dempsey, of Osceola Co., Iowa, and its claimed points of superiority are these:

1. Ventilation. Owing to the manner in which it is made it can be ventilated better than any other super.
2. Honey-sections can be removed at any time when filled without disturbing the bees.
3. Honey-sections can be removed without exposing the operator to the bees.
4. By letting down side doors the operator can see the bees at work, and is not exposed to the bees in any manner.
5. It is not necessary to use a smoker in removing honey-sections.
6. Bees will store from one-third to one-half more in a super of this kind than in the old style, for this reason: There is a bee opening in front of the super which permits bees to go direct to the honey-sections instead of coming in at the bottom of the hive, and coming up through the brood-frames and then to the honey-sections as in the old style.

It is claimed by the inventor that this super was thoroughly tested by bee-keepers last season, and that it proved successful in every respect. No doubt Mr. Dempsey will offer to sell his super to bee-keepers.

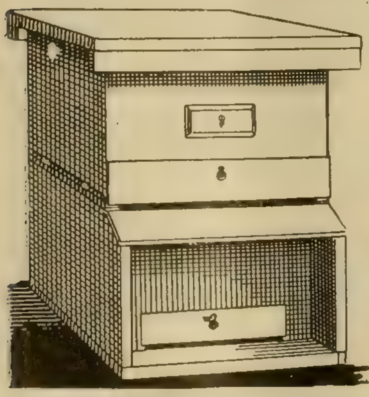
Yon Yonson and the North Pole.—A correspondent complains that this Journal should allow Yon Yonson "to hold up to ridicule the proprietors of Gleanings by taking them to the North Pole in search of new races of bees." Pity that Yon Yonson's quaint humor should so miscarry. Our correspondent may rest assured that no unkindness was intended, and the probability is that no one smiled more broadly over the good-natured hits than did the Gleanings people themselves.

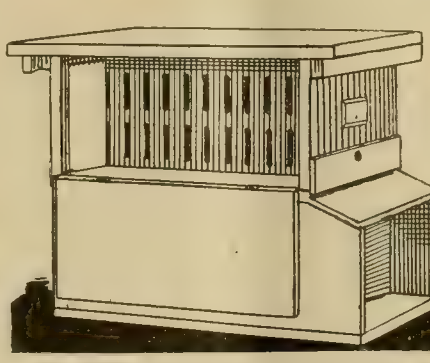
Corrections.—On page 256, in a question signed "Canada," it is said that Mr. Doolittle gives 92 degrees as the lowest temperature in the brood-nest, having said so in Gleanings for April 1, 1896, page 307. "Canada" writes that there is a printer's error, the reference having been given "April 1, 1905, page 368." No real name having been given, it is not likely that any one's reputation for veracity has suffered, yet it is better to have such things correct.

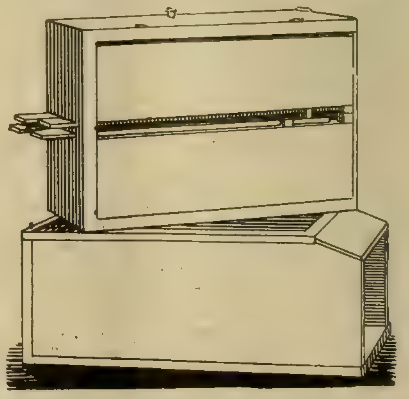
Also, two queer and yet very humiliating errors appeared on the first page of the Journal last week. In the date line appeared "45th Year" and "April 26, 1905," when it should have been "46th Year" and "April 26, 1906." It came from taking the heading that had not been used since the last issue of 1905, and changing only the No. at the right end of the line, and the date of the month—the only two changes necessary each week after beginning a new year. But the dates, etc, were all right on the *inside* of last week's Journal.

The Apiary of S. L. Mottinger is shown on the first page. He is a beginner with bees, and tells his experience in the following interesting paragraphs:

> EDITOR YORK:—I send a picture of the apiary that I started last May as a beginner in the bee-business. It is not that I care to boast of my success, but rather that my experience might perhaps encourage others who contemplate going into the business.
>
> The greatest obstacle in my way as a bee-keeper is poor eyesight. I am an ex-soldier of the Civil War, 67 years old. I was wounded twice on the field of battle, lost the sight of one eye entirely, and can't see very well with the other. I retired 5 years ago as a farmer. Not being contented with doing nothing, I decided to go into the bee-business partly to occupy my time. As I had no experience with bees, I subscribed for the American Bee Journal, ordered Dr. Miller's "Forty Years Among the Bees," "A B C of Bee Culture," and a modern hive in the flat. With these "instruments" I made the subject a study for one year before I ventured to handle bees with any prospects of success. I have since added another bee-paper and some pamphlets to my bee-literature.
>
> In April, 1905, I bought 2 colonies of bees in box-hives—one in a 10-frame Langstroth hive without any frames in it, and the other in a box 16 inches square and 18 inches deep. These 2 colonies stood out all the previous winter with no protection excepting a barbed wire fence on the north and west, with one hive split open from the entrance to the top, so that the bees passed in and out the whole length of the hive.
>
> I got them home May 1, and as it was increase I wanted, and as I


The Dempsey Super in Proper Position on the Hive.


Side Door Dropped Down Showing the Honey-Sections in Positions.


Super Lying on the Side Showing Bottom of Super and Entrance for Bees from Hive.

had no experience in transferring, I decided to operate on one only, and let the other swarm naturally. I made 6 8-frame hives and filled them with full sheets of comb foundation, and on May 6 I proceeded to transfer the one according to directions. I succeeded in getting about one-half or two-thirds of the bees and the queen into the new hive, and placed them on the old stand. I intended, on the 21st day afterward, to drive out the remaining bees and form another colony by giving them a queen; but the bees got the start of me by turning out a swarm on the 18th day after transferring. I hived this swarm and placed it on a new stand. I decided then to drive out the remaining bees on the 21st day, unite them with one of the new colonies, and break up the old one, but to my surprise, on that very day, and while I was getting the smoker ready, the old colony turned out another swarm. I hived it and placed it also on a new stand. With the swarm I forced on May 6 this was the third one, and only May 27. I supposed that now the old colony was "done for;" but to my surprise that evening, when I looked into it, I found quite a few bees remaining in the old hive, and brood, both capped and uncapped. There is no mistake about these 2 swarms issuing from the old colony. I saw them coming out of the hive in both instances.

I now moved the old colony to a new stand several rods to one side. It grew in strength rapidly, so that on June 22 I forced another swarm from it, placed the new swarm on the old stand, and removed the old box-hive still further to one side.

The colony in the old Langstroth hive which I let swarm naturally, turned out its prime swarm June 23. It was a large swarm that completely filled an 8-frame hive. It filled 4 supers of 24 sections each in 4 successive weeks, and altogether 108 sections. I made an exhibit of this prime swarm's surplus honey at the Fair, and took the 1st premium on comb honey. This old colony turned out 2 after-swarms which I hived on full sheets of foundation.

I increased from 2 colonies to 9, and got 350 pounds of surplus honey. I got all the surplus from the new colonies excepting 24 sections from the colony I let swarm naturally.

My new hives weigh 26 pounds each without the supers. On the first day of December I weighed all the colonies and put the young colonies into the cellar, and wintered the 2 old ones on the summer stands. The young colonies weighed from 65 to 75 pounds each without the supers on, and the old colony that I tried to break up weighed 110, and the other 90 pounds.

I prepared them for winter by wrapping old carpets about them and setting a large shock of bundles of cornfodder around them, well tied together at the top. They have wintered well, both outdoors and in the cellar.

Estimating my surplus and increase on the spring count, which seems to be the rule, I got an average of 175 pounds per colony, and 350 percent increase. I didn't feed a drop in the fall, nor do I need to do so this spring, unless it is to stimulate brood-rearing.

The person in the picture is myself, and the hive next to me is the colony I let swarm naturally. The second colony from the left is the one I tried all summer to break up.

I made 25 hives the past winter, and put the new metal spacer on 200 frames.
S. L. MOTTINGER.

Plainfield, Ills

Contributed Special Articles

How to Control the Swarming of Bees

BY H. S. PHILBROOK.

On page 299, Mr. Allen Latham criticised Mr. Davenport's article on page 185 pretty severely, and closes with saying, "I don't believe it." Now, I wish to say I believe every word of it, and why I believe it is because of the many allusions to his discovery. He has outlined a plan which I have been working on for 2 years, and which is so simple and effectual that it is simply astounding it has not been practiced before.

I do not know what manner of man Mr. Davenport is, and can not make out just why he did not publish his discovery instead of alluding to it, and not allow people to say, "What does he want?"

My views on the subject are simply these: If a man profits by reading the experiences of others in any journal, and should make any discovery that might help others in the pursuit, it immediately becomes his duty, and should be a great pleasure to be able, to return those profits by publishing his own discoveries.

Now, the reason I have not written of this system of control of swarming sooner is, that I do not believe in rushing anything into print until one is sure of what he says; but it is working so beautifully again this year that I feel free to give the plan to the bee-keeping world, and let them pull it to pieces and commend or condemn it, as only circumstances and time will tell which.

First, and most important, I will say we all know what causes swarming is an overcrowded brood-chamber, and this is what suggested my plan to me. It is simply this:

Start a new colony connected with the old one and yet separated by a queen-excluding zinc honey-board. To do this, place a hive full of frames with foundation, or empty combs, beneath the old brood-chamber, and either put the queen below on the empties, or shake the entire lot of bees out of the old brood-chamber on the ground and let them, together with the queen, crawl back into the hive, being careful to place the honey-board neatly between the new and the old chamber. Thus there is no chilled brood, as the main lot of bees will go through the honey-board and attend to it, while the surplus bees will attend to matters in the new one, and they take hold with the vim and vigor of a new swarm. Now, if cells are sealed in the old brood-chamber, they must be removed before the young queen emerges, or you are liable to get a drone-laying queen in the super, unless it has an open entrance.

The bees will not disturb the queen-cells themselves, as we all know the cells are readily accepted above a honey-board. Yet they do not mind in the least if those cells are removed, and it is just so with bees treated in the manner I speak of. Now, when the lower chamber is full of brood, the upper one will almost all be hatched out, and they can be exchanged, always keeping the queen below. It has worked beautifully with me, and has given me absolute control of swarming, and always kept up vim and vigor in the colony.

This also admits of easy increase whenever one is ready to make it, by taking away the old brood-chamber and supplying a young laying queen, or a virgin, or allow them to hatch their own cells. And now, connected with this system, it becomes very convenient to be able to find "her royal highness," and thus avoid the bother of shaking out the swarm. I have a little device for this trick, which will get her in 2 minutes, no difference how large and populous the colony is, or whether she is black, Italian, or Cyprian, or what her make-up, she can not resist going where she is wanted, and readily becomes a captive. I will describe this in my next article.

My bees have a very strong strain of Cyprian blood, and yet this system of controlling swarming has never failed me, which speaks well for it.

Now, for those who do not use the honey-boards, on account of not liking them, I will explain a little trick to remove all drones either in the egg or larva, or in any state of unsealed form, although our text-books all say, "Let them alone until sealed and then cut them off." My trick is just to sprinkle a little sulphur on them in the cell, and in 20 minutes the bees will have them all out in the front dooryard and scattered far and near. A large salt-cellar is very convenient for this purpose.

If Mr. Davenport has a better system for controlling swarming, I am sure we will all be glad to hear from him, and through the columns of the American Bee Journal let us give as well as receive. I know the Journal is a very great help to any bee-keeper, and any and every bee-keeper should try to be a help to his chosen journals. But let us not write of things we are not sure of.

And let me say here, that I have not yet seen any more of bee-paralysis this year, and believe I am entirely free of it.

Oxnard, Calif., April 15.

❋

A Great Moth Fight—"Good Candy"

BY PROF. A. J. COOK.

There is now going on in the eastern half of the Bay State a momentous battle, the outcome of which concerns not only Massachusetts people, but all of us. The bee-keeper is specially interested, for the fate of the parks, forests, shade trees, and orchards is pending, and with these wiped out our bee-forage would be materially lessened. This is most serious, for unless the threatening evil is stayed in its onward march, the whole State of Masachusetts and other States will soon be invaded, greatly to our country's loss.

THE ENEMY—TWO MOTHS.

This alarming evil is caused by two moths—one the Gypsy, of which we have heard for several years, and the other the Brown-tail, so-called, as the tip of the body is red or brown, though the moth is pure white. Both of these moths come from Europe, and are recent importations. The first devastates all kinds of trees, even evergreens or conifers, and stops not at garden vegetables. Its devastations are often absolute, and so the threatened mischief is enormous in extent. The other feeds on Rosaceous plants like the rose, apple, pear, cherry and plum, and also on the oak.

THE GYPSY MOTH.

This moth was introduced at Medford, near Boston, upwards of 50 years ago, by a scientist who most unfortunately allowed it to escape. The female cannot fly, and so it spreads very slowly. Yet a habit of the larva or caterpillar hastens its distribution, especially in these days of the automobile. Like the canker-worm, it is a drop-worm, or more properly a drop-caterpillar. Thus in the summer when the thousands and millions of caterpillars are feeding, they, spider-like, spin a silken thread from which they suspend, and thus the passing carriage or automobile may catch them up and hurl them away for miles, and so forming a new center of attack. The serious defoliation of the parks and shade trees in eastern Massachusetts, as also the ruin of the beautiful roadside trees, attracted wide attention and created alarm in the early '90s. Legislation was sought, and well nigh a million dollars were appropriated to exterminate the moth. The work was put in able hands, and good progress made. Indeed, so well was the effort appreciated that the Legislature paused in its attempt, but the Gypsy moth did not; but in 1904 it was found as bad as ever, and much extended. Fully a third of the State is now involved, and the evil is spread to Rhode Island on the south, and to New Hampshire on the north. "Put not thine hand to the plow and look back" applies to insect attack, and should have been remembered in the grand old Bay State.

THE BROWN-TAIL MOTH.

This moth, though smaller, is a far more destructive one in Germany, they tell me, than is the Gypsy moth. It was brought to the United States later than the other, but is strong on the wing, and so spreads much more rapidly. It is believed now that at least half of Masachusetts is attacked, and it has spread to Maine on the north. At least 5 States are invaded. It is supposed to have been introduced on roses brought from Europe in the winter months.

This moth has a unique way of nesting in the winter. Most moths winter either as eggs or pupæ. This one passes the winter in the larval or caterpillar stage. The eggs hatch in autumn; the tiny caterpillars commence to feed, and are yet quite small when the foliage dies and the cold comes. They then spin a dense web in which they pass the winter. It is said that the number in one of these nests is about 250. These nests are conspicuous objects in the oaks, orchard trees and hawthorn hedges in the winter months after the leaves fall. I have seen here in Berlin as many as 50 in a not very large pear or plum tree. We see that this means over 12,000 caterpillars to commence an onslaught as soon as the young foliage bursts forth in spring. We readily see that the oak, apple, pear or plum that harbors such a host is surely doomed. As I have said, the female Gypsy moth does not fly. This Brown-tail is a strong flier, and this with the ease of conveying the caterpillars in the nests in winter on nursery stock, gives to this subject a serious import to us all.

The last Legislature of Massachusetts voted a third of a million dollars to fight these two pests. The commission into whose hands the work of extermination is put is a very able one, and we may hope for results.

THE MATTER OF NATIONAL IMPORTANCE.

I have written so fully, as this contest concerns all of us, not only bee-keepers, but every one who loves a tree. We know that our trees are not only beautiful, but absolutely necessary to our comfort and prosperity as a nation. If these pests are permitted to invade all the States, which they will do, if allowed, our very life as a people will call for extermination, which is so difficult that it would require an expenditure of millions, yes, billions of dollars. The imported cabbage butterfly, *Pieris rapae*, was imported from Europe into Quebec. In about 50 years it had reached every State of the Union. There is no reason, so far as I can see, why the Brown-tail might not spread as rapidly. *Massachusetts must extirpate these evils.* It is a colossal work. The whole country is deeply interested. Why should not the General Government aid in the matter? To let these pests spread further would be an enormous blunder.

Every one of us should wake up to the serious importance of this fight and demand that the Government sees to it that this threatening evil be not permitted to spread any further.

INSECT QUARANTINE.

California has a very efficient quarantine officer, whose duty it is to see that injurious insects, or plants infested by them, be not permitted to enter the State. This officer has been very prompt, and efficient, and has doubtless saved millions of dollars to the State. It would have been wondrous economy could we have had the officer earlier. Then the destructive scale insects, codling moth, etc., would have been kept out to the saving of untold millions of dollars. This moth invasion in Massachusetts shows how every State needs such a quarantine.

PARASITES TO THE RESCUE.

As I have before stated, these pests are not so alarmingly destructive in Europe. This is owing to their predaceous and parasitic enemies, that hold them in check. It is known that the nesting caterpillars, in the winter nests of the Brown-tail larvæ, harbor the parasites that will devour them. It is hoped that by introducing these into Massachusetts the evil may be cheaply overcome, just as the *Vedalia* killed off the white scale in the orange orchards of California. I have collected and shipped to Boston from Berlin 9,500 nests of the Brown-tail moth the present winter. From what I have said, it will be seen that I have sent about 2½ million of caterpillars. As a single caterpillar often harbors several parasites, I can only hope that I have sent millions of the little saviors as well. We shall all watch the results of this experiment with the keenest interest. As it is in charge of Dr. L. O. Howard, of the Entomological Department at Washington, we can be sure that success will come, if it is possible.

MR. SCHULZ AND HIS CANDY.

We all remember that the "Good candy" was made in Germany by a Mr. Schulz before it was produced in America by either Mr. Viallon or Mr. Good. Mr. Schulz now lives near Berlin, at Buckow, where he has 500 colonies of bees. He also has the largest honey emporium in Berlin, where he has 4 kinds of honey candy, all of which are delicious. He sells 1-pound jars of extracted honey for one and one-fifth marks—about 28 cents. Although he has the largest shop in the city devoted to honey, yet he has no fine comb honey at all.

Surely the trade relations between Germany and the United States might be greatly improved, vastly to the gain of both countries. I believe Germany would not hold back from a fair and most serviceable reciprocity. Why should not America meet her half way?

I have arranged to visit Mr. Schulz at Buchow in early May.

Berlin, Germany.

"Sections, Separators, Supers and Section-Holders"

BY E. F. ATWATER.

I CONSIDER the article on the above subject (on page 159), by F. Greiner, to be one of the soundest and best ever written. Mr. Greiner has decided not to increase his stock of no-bee-way supers. That's my decision also, and I am changing mine into regular hives by nailing under each a rim of such depth as to give the right dimensions for standard Hoffman frames. Not only was my experience the same as his, in finding no considerable advantage in the plain 4x5 section and fence-separator, but several serious disadvantages made themselves so manifest that I want no more of either until the details of each are worked out satisfactorily.

With the Betsinger wire-cloth separator I have had no experience, but can see that it *may* prove to be the omega of the separator list, if it can be used with general satisfaction.

That's right, hit the T-super again, and let me jump on it while it is down, for any locality like yours or mine. We put into use last year 600 new wide-frame supers for 4¼x4¼x1⅞ bee-way sections. The scalloped bottom-bar is ⅜-inch thick, and top-bar ¼-inch thick. The heavy bottom-bar does away with the sag.

"In constructing a wide-frame super it is a question whether the separator should be nailed to the frame, or should be a separate fixture." Yes, that's why we fitted 500 of the above 600 supers with loose wooden separators, and the balance with tin separators nailed to the wide frame.

In regard to filling sections with full sheets of foundation fastened on 3 or 4 sides, I suppose Mr. Greiner was joking when he told of using a hatchet "to knock it out of the sections." For several seasons I have produced more or less comb honey on full sheets so fastened, and never found it difficult to cut out the honey. Perhaps Mr. Greiner used "Columbia" foundation with a tin base, or a remnant of the late unlamented wood-base foundation, in those sections!

Mr. Greiner and I seem to agree on the super question, but my full sheets of foundation do not seem to agree with him, though my customers never object to my honey, and, as M. A. Gill says, "That is all I am producing it for."

Meridian, Idaho.

❋

Controlling Increase—Rearing Queens, Etc.

BY WM. STOLLEY, SR.

I DESIRE to describe my way of controlling the increase in my little apiary of about 30 colonies of bees, as well as to outline my way of rearing choice queens. I am well aware that this is of no interest whatever to the apiarist who counts his colonies of bees by the hundreds, or even thousands, but I think it a very good and practical way of managing for bee-keepers who want to keep just so many colonies of bees, and no more, principally for their own use, or recreation, but who are often at a loss to solve this question of increase with satisfactory results.

I keep my bees in an open shed, which has 2 tiers of hives, one above the other. The posts in front are 8 feet apart, and the shed itself is 8 feet wide, with an overhanging roof of 2 feet in front. My regular double-walled hive (for extracted honey) carries 14 American frames, 11½x11½ inches. Thus 30 colonies find room on the ground tier of hives—two in each space between the posts.

The upper tier of hives are not intended to be occupied by bees in winter, but serve as a receptacle for empty brood-combs, or combs partly filled with honey and pollen to be used at the proper time in the early spring, or later when bees are swarming, and when I rear the choice queens for my own use. All hives in the upper tier are "single-walled," and smaller in size, and carry only from 8 to 10 frames each.

I keep all queens clipped, taking about 1-3 of a right wing off, which disfigures the queen but very little, and the "Monette Queen-Clipping Device" I find to be the most practical implement for that purpose.

Now, when a colony swarms, all I have to do is to watch for the queen and cage her as soon as she leaves the hive. As soon as the swarm is in the air I remove the hive from which it issued, and lower the hive from the upper tier right above, filled with empty comb, and place it on the stand from which the swarm came. After this is done, I open the hive from which the swarm issued and take all combs containing brood, with all adhering bees and sufficient honey for the young bees left out, and put them into another hive. This is generally so quickly done that almost always the bees are still circling in the air, or are clustering somewhere on a branch of a tree.

When this is the case, I put the hive right back on its old stand, and fill up with nicely drawn comb, or frames filled with full sheets of comb foundation, and await the return of the swarm, when the queen is allowed to run in with the bees.

But the hive containing all the brood taken away is placed right above the hive below, in which the swarm has hived itself. Of course, all field-bees return to their old home, and brood and young bees are all that is left in the hive in the upper row. About a week later I shake nearly all young bees hatched in the upper-tier hive in front of the hive containing queen and swarm below, and this I repeat once every week until the last young bee has hatched and the combs are clear of brood. Thus I mass all bees on the original stand, and the result is "more honey" instead of increase.

If I desire to rear queens from a favorite queen to replace queens marked for supersedure, I form nuclei of 2 combs of hatching brood and 1 comb of honey (if possible from the colony which is to get a new queen), about 2 days before the choice queen-cells are ready for hatching. The colony from which I want to breed is forced to swarm by crowding the bees, since with my large hives swarming is reduced to a minimum anyway, and after I have thus taken a lot of matured queen-cells for the nuclei, I shake the bees and unite them with the mother colony on the old stand, as above stated.

As soon as the young queens are mated and well on the way, their hives are lowered and placed on the hive wherein is the queen to be superseded. After the field-bees have learned to follow the lowered hive, the old queen is killed or removed, both colony and nucleus are dosed with a few slices of onions, and the nucleus with the young queen on the center-comb is placed in the center of the brood-nest from which the old queen has been removed. In this way I prevent undesirable increase and rear choice queens.

The methods, as explained in the foregoing, may be of some service to those who wish to restrict their limited number of colonies, particularly when they are beginners in bee-keeping.

Colonies kept in the open and not in a bee-shed like mine, of course, should be treated in a modified way, accomplishing in the end the same result.

I must add a word of caution: When swarming takes place, almost always the supers are on the hive, and it frequently happens, even with my large hives, that some brood and queen-cells are to be found in the super, and if so, they must be removed, as the brood removed from the brood-chamber prevents repeated swarming, or possibly the killing of the old queen.

Grand Island, Nebr.

Our Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

How "We" Introduced a Queen

I am wondering if all beginners have the gay time we have had in trying to introduce a queen to a hybrid colony. By *we*, I mean my husband and myself; and here let me say 'tis the same old case as "me and Betty killed a bar," I playing the part of *me* ever since about a dozen bees got under my veil in helping hunt for queen-cells; so he has had the "work" to do while I stand off a safe distance and cheer him up. But I'm ahead of my "tale of woe."

We sent away for a 5-banded Italian queen, thinking how we would love some little yellow bees. Well, after 9 or 10 days of anxious waiting we one noon received her "royal highness." She was a queer amber-yellow color, and, as my husband remarked, "No great shucks to look at."

The directions we had read and re-read for introducing queens said, "Make your colony queenless;" be *sure* your colony is queenless," etc. So we made *sure* by veiling ourselves and sallying forth and picking old Mrs. Queen and a small family of slaves out, and putting them in a box with a piece of screen over one side and a big slice of comb honey in one end. Then we patiently (?) waited two days, with the new queen in her cage in the cupboard, then we followed to a dot the directions that came with her, except, as Mr. Root preferred leaving the cardboard over the candy-hole, we left it there instead of taking it off as directed.

We laid the cage, wire side down, over the top of the brood-frames and shut up the hive. We left it five days, as directed, although it was a great strain on the nerves, and at the end of that time our curiosity was at the bursting point. We hustled into veils, gloves, jackets, etc., and rushed out to the hive about 9 o'clock one morning. My faithful "pardner" cautiously lifted the hive-cover, and I stealthily lifted out the cage, and, lo! our queen was still therein, and not more than three or four bees paying any attention to her, and not even the pasteboard over the candy-hole was nibbled a bit. Such hateful bees! I felt that I despised them. I commanded my husband to put the cage back and come away, which he did somewhat sulkily, for, be it known, he has a great fondness for poking around in and out of a hive (not shared by me).

We retired and meditated over the contrariness of bees, and finally my husband said, "Let's take out our new queen and see if the bees have started queen-cells."

I hooted the idea, with this queen practically in the hive, but consented, and we removed the "Dago," as we called our new queen, and waded in. We found and cut out one queen-cell unsealed, and then the bees got so wrathy we retired to give them time to cool off. After an hour or so we went at them again, and cut out five more queen-cells. One was sealed over. That did disgust us, and the bees seemed to go crazy, and a dozen, more or less, got up under my veil, and by the way I moved and felt, I am convinced bee-stings *will* cure rheumatism, old age, or any old thing. I haven't moved so lively, nor, I may say, so gracefully, in all my life before—went over pea-fences, potatoes, strawberry-beds, and raspberry-vines like a bird. They stung me in my hair, on my neck, chin, hands, wherever they could get a toe-grip, and wept because I wasn't larger. I nearly lifted my scalp in my haste to shed veil and hat. My "pardner" nobly stayed with them, and got everything in

ship-shape before he left; but, then, *he* wasn't being stung.

After cutting out the queen-cells we waited until night, and, putting some long wires around the queen-cage, we spread two brood-frames and lowered the cage down among the brood. This was the night of the sixth day since we started to "introduce" her. We waited two days more, and then attacked the fort again to see what had been done.

On drawing out the cage we found it covered with and as full of bees as it could stick; and after brushing off, *there* was the queen yet in the cage!

Is she a hoodoo? I almost believe so. I advised my long-suffering husband to pry off the screen and let the poor thing out, even if they ate her up. He did so, and she flew against the inside of the hive and hopped on a partly-empty foundation and hid from our view. Only two or three bees took after her, and none acted as if they meant to hurt her. Can it be she is finally introduced? or is there more agony in store for her?

My husband said she looked larger, and thicker and yellower. But isn't "introducing," as practised by us, exciting work?

When I get my colony (we have engaged 2 swarms from a neighbor) I think I will buy a nice, young 3-banded Italian (if there are any *warranted* to feed out of my hand, and her bees *never* bite, here's a sale), pick out the old queen, wait half an hour, and then just open the hive and let my new queen run out of her cage into the hive. If they ball her, I'll put them to soak in a tub of water; and if they let her alone, well and good. It is not so harrowing on the nerves.

My husband disapproves of my frivolous attitude regarding bee-keeping; but when one is such a favorite with them as I, I must have some fun to repay me for a stiff neck (worse than rheumatism), and a large, aggressive jaw that causes my most intimate friends to look apprehensively at me, and the good man himself to keep a wary eye on me. My appearance is fierce with it, and, all together, I am a very *swell* affair.

I've written this yard or two of letter merely to ask if some kind bee-keeper won't tell me how old larvæ can be and the bees yet create a queen from it. I'd like to know, for our warriors may yet have a queen of their own making up their sleeve. Nothing would surprise me in these bees. They even enthusiastically fly indoors for one nip more at me.

In three days more, if I am nerved up to it, I will hint to "my wayward pardner" that we take a still hunt for the Dago. I think I'll get more nibbles, but it's all in a lifetime. (MRS.) W. M. BURKE.

[When younger larvæ are not available the bees may take anything unsealed and try to make a queen out of it.—EDITOR]—Gleanings in Bee Culture.

* * *

Keeping Bees With Poultry

As said in a previous article, it is possible to keep both bees and poultry and make both return a handsome profit. But to do this, a little extra and unusual management must be resorted to. I have done this for a number of years, and do not find my bees any in the way of my poultry operations. Many women who are succeeding moderately well with poultry are loth to give it up, while the same time alive to the greater profits possible from bee-keeping. To such I would say, "You have advanced far enough with poultry to put you into position to run that business for special rather than for general results, which, if you can do so, you will still have time at the right season for your bee-work." For the benefit of those I will tell how I manage both enterprises.

From the middle of January to the middle of February, according to the season, I prepare to start the poultry business by putting an incubator into operation. This gives me the first lot of chicks early in February to early in March. With good outdoor, center-heat brooders I manage to rear a large percent of these early-hatched chicks. After the third week they are much less work to care for than at first. By this time I then have another hatch out, and by the time I have taken off the third hatch I have about all the early chicks I want.

When 10 weeks old I sort out the cockerels and less desirable pullets and push them off on the broiler market, realizing for these from the first two hatches from $5 to $6 per dozen. The pullets I push along as rapidly as possible, and by the first of June, when swarming begins, my young poultry requires very little exacting work.

During the active season in the apiary my principal poultry work consists of filling orders for eggs and in caring for my breeding pens. By July 10 the shipping season is over, as is also the rush in the apiary. Then for the next summer's breeders I usually take off an extra hatch. The cockerels from these, together with the choicest from the last of the early hatches, are sufficient to supply my fall and winter trade for breeding stock, while the early pullets make my winter layers. But it will be noted that I do not sell in the general market anything except culls and broilers, and these bring me an extra price. Managed in this way my poultry yields me an income far ahead of that estimated for the general poultry keeper, and my bees fall nothing short of that obtained by others.

Such a combination of these two industries would be particularly suitable for the woman without a family, and for the man who desires to make a living from rural pursuits without incumbering himself with the management of a large farm. For one with 10 to 20 acres of land on the outskirts of some lively city, there would be no better combination than bees and poultry. Of course, a woman, to do all this, and do it with profit, must have some help now and then, but with the income from her enterprises at her command she can well afford to hire such help as she needs, either outdoors or indoors, if she can get it.

Viroqua, Wis. MRS. MILLIE HONAKER.

Southern Beedom

OUR TOIL DOTH SWEETEN OTHERS

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Nourishment of Bees

Some years ago Schoenfeld explained, by many microscopic researches and careful experiments, the way in which the different bees and parts of the colony are nourished, and Dr. von Planta has assisted him by his difficult chemical analyses.

What these two scientists have found is so peculiar to the bees, and so important that we can truly say no discovery has been made, since the proof of the parthenogenetic procreation of the drones, of more importance to bee-culture. Nevertheless, this is nearly all neglected by the bee-keepers of our country; and the worst of all is, bee-keepers generally dislike to read scientific articles. No doubt progress in bee-culture can take place only as we understand the nature of the bee, and base our manipulations on this knowledge. As in other industries, a bee-keeper may gain practical results by following advice which is given like recipes in a cook-book; but he can never make progress if he does not know *why*, and for what purpose, he manipulates in this and no other way. In searching for new ways he will be entirely in the dark, and will wander in many paths leading in the wrong direction. Good luck only may bring him success; but with the light of proper knowledge at our disposal we shall easily see the proper way to attain success.

I will now give the most important parts of Schoenfeld's discoveries. The nitrogenous food of the bees is pollen. By the young bees pollen and water are taken into the true stomach, in which digestion takes place. When the digestion is finished the indigestible parts of the food, such as pollen-shells, etc., are squeezed out of the true stomach by its own peculiar movement into the small intestine; and in the true stomach remains the fully digested food—the chyle. This chyle has a white, milky appearance which is caused by a great number of small cells that originate from the inner skin of the stomach, called "intima," and are identical with the blood-corpuscles of other animals. This chyle has now two ways for assimilation: It either passes the wall of the true stomach by diffusion, and is mixed with the blood, which, in the body of the bee, flows around all organs, nourishing the same, and from which every organ can take just those parts that are needed; or it is regurgitated and fed to larvæ, queen, drones, and even to older sisters under certain circumstances, and is assimilated in the same way in *their* body. The blood and the chyle are fully identical—the only difference is that blood surrounds the true stomach, and chyle is inside of it. So it is quite correct to say that the queen, for instance, is nourished by the blood of the worker-bees.

If the contents of the stomach are regurgitated when the digestion is nearly completed, but when the pollen-shells are not separated as yet, we call this food "chyme." For the anatomy of all the organs necessary for digestion I refer to Cowan's "The Honey-Bee," the most complete book we have as yet on these matters.

When the pollen is gathered by the field-bees it is mixed with saliva, which soon causes some fermentation, and so the old field-bees take part in preparing the food for the whole colony.

The second food of the bees is the honey (carbo-hydrate). It is prepared from the nectar of the plants in the honey-stomach, as here the acids of the saliva (which is mixed with the nectar when the bee sucks it from the corolla of the flower or from the cell in the mouth) change the cane-sugar of the nectar to invert sugar, which can readily be assimilated without further change. In the honey a small quantity of formic acid is found. This originates from the saliva, too, as the glands form it out of the blood. Some bee-keepers have believed that this formic acid is added to the honey by the bees purposely from the sting, but that is a mistake.

Further, we know that the queen and the drones are for nitrogenous food entirely dependent upon the workers, which feed chyle to them in large quantities. Both are even unable to digest pollen at all. The drones, as is proven by experiment, if not fed by the worker-bees will get very weak, and will die in 3 days. The queen, too, can not live very long if not nourished by the workers. The queen and drones take honey out of the cells. The chyle is fed to larvæ the first 3 days; afterward chyme is fed to the worker-larvæ; but queen-larvæ are entirely nourished by an abundance of chyle.

The chyle and blood are composed of albumen—fat-like substances—and sugar; but the proportion of the composition is somewhat different according to circumstances. This is a very important point for our later consideration.

L. STACHELHAUSEN.

NOTE.—I explained Schoenfeld's researches and discoveries more in detail in Gleanings for 1888, pages 345, 379, 388, and Prof. A. J. Cook added remarks to my article. I was the first one who made known these important facts to bee-keepers. L. S.

The above is only one of a series of articles to follow by our well-known Mr. L. Stachelhausen. In these he gives our readers, in his easy style, some important and interesting matter which they perhaps would not obtain if they had to "dig it out" of the scientific works in question. It is only too true that most of us bee-keepers do not like to read scientific articles. And even if some of us did, we could hardly do so with a clear understanding. There are too many "long words" and "scientific terms." Therefore, it should be highly appreciated if those who can do these things give it to us in such language as *we* can understand.

Such knowledge as is given in articles of this kind can be a great deal of help to bee-keepers. It will help them to go further than along the same ruts traveled by their ancestors. Mr. Stachelhausen is right in saying that progress can not be made unless we know *why* we do things in certain ways, except it comes by mere chance, or we stumble on it.

* * *

The Weather and the Honey-Flows

It is interesting to note how the weather, and other atmospheric conditions, will influence the honey-flow or the secretion of nectar of different blooms. It would be still more interesting if we understood these matters better, then we could discuss them with better understanding. Those who have studied botany are well aware of what effect different kinds of weather, heat or cold, dryness or moisture, etc., have upon the nectar-secreting glands of the flower of a plant. This is another reason why bee-keepers should be botanists more than they are.

There are some things in connection with this subject that seem like a mystery to some of us. One of these has caused this question to be asked many times, "Why does cotton yield nectar some seasons and not in others, although the seasons seem to be as favorable in one as the other?" The same has been said about other honey-yielding plants. I have seen hundreds of acres of fine horsemint in full bloom, yet not a single bee could be found on it. In Southwest Texas, where huajilla (*Acacia berlandieri* Benth.) abounds, I have been told that in some seasons, and in certain localities, it does not yield nectar, although covered with a profusion of bloom, and when the weather seemed favorable for the secretion of nectar. A little more information on such subjects as these would, I am sure, be of much interest. Who can tell us—who knows—something about these things?

Right along this line is a letter from Mr. H. C. Barnard, of Georgia, in which he says:

> I was much interested in what J. J. Wilder said about the way the weather influences the honey-flow, on page 141. More observations and study on this subject would not be amiss. It would certainly be interesting to know *why* these things happen, even if our knowing the "why" will have no effect on the honey-flow.
>
> In this connection I wish to state that I am a Co-operative Observer of the U. S. Weather Bureau at this place, and it is easy for me to look over the records and see what kind of weather it was during a certain honey-flow. The Co-operative Observer gets no "money" pay, but the records are of value to many, and the Weather Bureau sends him free several valuable publications. I have often wondered how many (if any) of the 3000 or more Co-operative Observers are bee-keepers. The Weather Bureau desires to have one Co-operative Observer in each county in the United States that has railroad facilities; so, brother bee-keepers (or *sisters*, either), if your county has no Co-operative Observer in it, and has railroad facilities, apply for the office and be of service to the Government and to yourselves, and help us learn some of the "whys" of bee-keeping. In those counties that already have Co-operative Observers (as Mr. Wilder's has) any one can examine the records by asking the Observer.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Caucasian Bees in West-Central Asia

So West-Central Asia, 1000 miles in, has no bees of value except Caucasians, which have been brought there—probably not so very long ago. I don't wonder that Benton put in a (!) when he found modern frame hives there. Suspect that the beautiful view, "Le mont Elbrous—Vues de Caucase," is not germane to Samarcand, where Mr. Benton penned the border, but simply Mount Elburz in the Caucasus. A very saintly looking white mountain, anyway. Page 270.

Dr. Miller vs. F. Greiner on T-Supers

Dr. Miller takes out 10,000 sections from the T-super without setting one to leaking. F. Greiner fails to take out 100 except a dozen or so leak. Why is this thus? May it not all result from Mr. G. having a super with the tins immovable—all'ee same everlasting hills? Good plan to avoid loose pieces; but some good plans get carried a vast distance too far. Page 271.

Dadant's Few Swarms—Large Frames

Getting over 6 tons of honey a year for two successive years, with only 5 swarms [seen] in all that time—at an out-apiary at that—was indeed a grand triumph for the Dadants. A skeptical chap might say that there were a dozen swarms that they didn't see; but what of it? We can well afford to let Dame Nature devour a dozen swarms plus 5 in return for such a splendid crop. Grant that a thousand swarms went to the woods, and still the 25,500 pounds of honey sell for precisely the same sum in cold cash. We are interested in knowing—

> "About the natur' of the place
> Ten miles beyond the end of space;"

and so we are glad to hear that the elder Dadant experimented with a frame 18 inches long and 18 inches high. A past-master of bee-art, full of enthusiasm for big frames, found it too big. So I guess we may consider that 18x18 is the end of space in that direction. How about the other direction? Wonder if 10x5 would serve for Ultima Thule? Page 271.

Temperature Inside Winter Cluster of Bees

Queer that the high-class bee-books which try to be exhaustive all skip the temperature of the inside of the winter cluster. Mr. Doolittle fills the gap very ably indeed.

Varies from 62 to 66 degrees according to temperature outside. Within those limits a change of 15 degrees outside makes a change of 1 degree inside the cluster. Meantime the air adjacent the cluster, as near as the bulb can be held, is about 40 degrees—and less than 2 inches away depositing frost at 32 degrees. Shortly after being disturbed the inside temperature runs right up from 60-odd to 87 degrees.

The puzzle with which Mr. D. closes I'll guess off thus: The liveliest bees are of course well inside. When they hear a racket and think that duty calls them, they push to get out in all directions, and of course find it pretty hard pushing; but (equally of course) those that push down find less resistance than do those that push sidewise and upward, and succeed better. Page 272.

When Bees Gather Propolis

Dr. Miller didn't accuse bees of bringing propolis from buckwheat while working on it; but a heedless beginner might, perhaps, infer that. My idea is that when a heavy honey-flow prevails propolis is scarcely brought in at all from any source. Warm weather and idleness conduce to propolis—and I suppose that buds secrete it more plentifully as the winter draws near. Presumably the only thing the buckwheat can be held to blame for is not furnishing nectar the latter half of the afternoon. That would leave our busy-bodies several unoccupied hours to hunt for stick-em-up. "Satan finds," etc. Still, I doubt a little whether they change their kinds of work so readily as that. Page 271.

Winter Space Too Crowded With Bees

So Harry Lathrop confesses (20 years after date) to filling a little wintering space so nearly solid with 50 hives of bees that bushels of bees came out and clustered in the upper corners. Some of the boys can better afford to note how this particular thing works than to try it themselves. "Eggsperiunce— —good skule— —tewishum hi."—Josh B. Page 277.

Lubricant for Rietsche Foundation Press

And alcohol 4 parts, water 3 parts, honey 3 parts, is about the formula for a lubricant to put on the Rietsche press, which makes foundation from melted wax. Wood alcohol is so very poisonous that I fear we would better not assume without proof that its use will do no harm. Or do the chemists assure us that it leaves nothing whatever behind when it evaporates? Adrian Getaz, page 278.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

S. T. PETTIT

Born in 1829, S. T. Pettit became a public school-teacher, a farmer, then a bee-keeper. In 1873 he founded "The Marble Apiaries" by purchasing a few hives of bees. About 15 years later he leased his farms and became a specialist bee-keeper. Throughout he made a hobby of some special line of his regular business. While farming it was prize Southdown sheep; and as a bee-keeper it was fancy comb honey. While producing mostly extracted honey he developed the Pettit system of comb-honey production, based on ventilation, shade, packed cover to secure uniform temperature in the super, wedges, dividers, perforated separators, etc. His many pet ideas could hardly be enumerated, such as shade and upward ventilation to retard swarming; wide top-bars ⅝-inch thick and accurately spaced to prevent bur-combs; honey ripened by the bees before extracting; special watering-place for bees with fresh water every day, etc., are only a few.

Mr. Pettit spared no expense in securing the best buildings and appliances. His honey-house, as well as his bee-cellar and work-shop, were perhaps the best built for the purpose in the Province at that time.

Wintering bees commanded his most careful study. It was not enough that every hive should contain live bees in the spring, but the colonies must be strong enough to be ready for the extracting supers and to store a good surplus in fruit-bloom. He allowed natural swarming, considering the good first-swarms as best for comb honey.

While actively engaged in bee-keeping, Mr. Pettit attended conventions, and read and contributed to bee-papers largely. He was at one time President of the Ontario Bee-Keepers' Association, and was delegated with 3 others to take a large consignment of honey from that Association to the Colonial and Indian Exhibition at London, England, in 1886. This was the beginning of the series of successful exhibits of honey which Ontario bee-keepers have sent to World's Fairs. He was also largely instrumental in securing the first Dominion Pure Honey Law, about 12 years ago.

In 1899 he sold his bees to his son, Morley Pettit, and removed to the town of Aylmer, Ont., where he now resides, devoting his attention to his latest hobby—fruit-growing and gardening. For a man of his age, Mr. Pettit is remarkably energetic, and enjoys riding his bicycle almost as much as he did 10 years ago.

"Marble Apiary," near Belmont, when under the management of S. T. Pettit. The honey-house is in the center background. To the left is the shop nearly hidden by trees. The cellar is under the shop. The residence is to the right, and not shown in the picture. About one-third of the colonies were run for comb honey, and the balance for extracted honey.

Emptying T-Supers by Gravitation

On pages 160 and 271 may be found an interesting discussion between Mr. Greiner and Dr. Miller, and the merits and demerits of wide frames and T-supers.

The Doctor's pictures on page 265, and description on page 271, make his way of emptying a T-super very clear. Allow me to say that is just the way I used to do it a good many years ago, but I found a better way—one that saves the hard pushing process, and time.

When you have a number of supers ready for pushing, as the Doctor describes, just go about something else for a time and let gravitation do the pushing. Bee-glue puts up a strong resistance to a quick motion, but to a steady pull it slackens, yields, and lets go, and the sections drop. Allow them to drop about ½ to ¾ inch at first.

Aylmer, Ont. S. T. Pettit.

Father tells me I knocked over a super once upon a time, and when the sections fell out on the floor it taught him this wrinkle.

Work in Harmony With the Farmers

The following letter and editorial reply are copied from The Maple Leaf—a weekly newspaper published at Port Dover, in one of the best alsike regions in Canada:

Value of Bees as Fertilizers of Blossoms.

Mr. Editor:—At the last annual meeting of the Ontario Bee-Keepers' Association I introduced a resolution, which was carried, asking the Ontario Government to conduct experiments as to the value, or otherwise, of bees in fertilizing blossoms, such as large and small fruits, clover and buckwheat. Also for them to publish results and any information any one has to the effect that bees injure blossoms by working on them.

Our Government official has expressed himself to the effect that there are already many experiments to show the great value of bees for this purpose, and that they have never been known to injure crops.

I am anxious that these experiments should be conducted in Norfolk, to demonstrate to the farmers the value, or otherwise, of bees.

Heretofore bees have largely been in the hands of people with whom it has been a side-issue, and who have been more or less successful in wintering, and the number of bees for fertilizing proportionately uncertain.

I want to work in harmony with the farmers, and they can depend upon bees for clover in the vicinities where they were last year, if there is any clover left. If they are satisfied of the value of bees for fertilizing their blossoms, they can put in more clover, etc., and if in other vicinities which are convenient, they want an apiary where there is not already an abundance of bees (for it takes many bees properly to fertilize the many blossoms), they can write me and we may arrange.

I would also like every interested person in Norfolk to write either to their representative in the Local House, or to the Hon. Nelson Monteith, Minister of Agriculture, Toronto, and ask that the above experiments be conducted in Norfolk county; that is, experiments showing the value, or otherwise, of bees in fertilizing blossoms. We want to know what will be the greatest good to the greatest number in this matter.

R. F. Holtermann.

Brantford, Ont., March 12.

We fully endorse the remarks of our correspondent. Any farmer who has any claim to be up-to-date in his business should know that there is no better fertilizer of clover than the bees, and no better or cheaper fertilizer for the land than clover. Not only that, but without the bees we can not have anything like the crop of fruit the trees and land would produce with their aid. Many fruit-growers complain that growing fruit does not pay, whereas if they had a few colonies of bees in the orchard they would be surprised at the result. Instead of every farmer having them, the fact is very few, comparatively speaking, ever had them, or perhaps dropped out because some animal was stung, or one cold winter the bees, not being properly cared for, died. Every farmer and fruit-grower should keep them, even if he cares nothing about the bees or honey, simply because it would pay well to do so.

We hope the suggestions of our correspondent will be carried out, and that the Agricultural College will soon issue an authoritative circular on the matter.

Fastening Hives Together for Moving

Mr. Holtermann has asked me to reply to the editorial comment (page 137) on crate staples for fastening bottom-boards.

For my part, I would prefer some means of fastening bottom-boards without driving holes in them with staples or nails. When moving without supers I use the staples regularly because I know of nothing better. Mr. Holtermann fastens bottom-boards at the back with a pair of hinges. These may have benefits which counteract their disadvantages, but I will not be real sure till I try them.

In moving with supers on, I know of nothing safe but a lath ⅜x1½ inches nailed up each side of the hive close to the front, and one up the middle of the back—3 laths on each hive. Use 1¼-inch nails, light weight, with flat head, and drive 2 in the bottom-board, 2 in the brood-chamber, and 2 in the super.

I have seen the crate staples tried on supers, and consider them decidedly unsafe; but with the lath and ordinary handling on wagons, or in freight or express cars, the bees go perfectly safe.

Wintered Fairly Well—Late Season

Bees have wintered fairly well. Clover, while badly injured by heaving, with good weather will yet be a medium crop. The season is late, the first pollen being gathered on April 17.

J. L. Byer.

Markham, Ont., April 19.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Italianizing Bees—Sweet Clover on Blue-Grass Ground

1. I have 5 colonies of hybrids which I intend to Italianize soon. Should I get 5-banded or clover queens?

2. Do you think that sweet clover will do well where the ground not under cultivation is covered with a thick stand of blue-grass and white clover?

Indiana.

Answers.—1. That's a hard question to answer. There are 5-banded or golden queens that are excellent, and there are others not worth the powder to blow them up. Neither are all that are called red-clover queens alike, by any means. If you have plenty of red clover, and if you can get stock that has distinguished itself by working on red clover, it will be to your advantage to get that kind, whether it is 3-band or 5-band stock. In general, perhaps there is as good chance of success with the 3-band stock—the kind that comes from Italy—as with any other kind.

2. Yes, if it once gets a start; but you'll find it hard to get a start in such a sod. If you sow when the ground is wet and soft, and then get a lot of cows or horses to tramp in the seed, you will be pretty sure to get a catch. Looks like pretty poor culture, but sweet clover seems to thrive on abuse.

What Determines Kind and Sex of Bees?

Does the size and shape of the cell in which the bee is reared have anything to do with the kind and sex of the bee? or is it the food on which the larva is fed that determines the sex and kind of bee, as the eggs that bring forth the three kinds of bees are all laid by the one queen?

West Virginia.

Answer.—The sex of the bee depends upon whether the egg is fertilized or not. An unfertilized egg produces a drone, a fertilized egg a queen or worker. An unfertilized egg in a worker-cell can produce only a drone; a fertilized egg in a drone-cell can produce only a worker or a queen. Under normal conditions only unfertilized eggs are found in drone-cells, and fertilized eggs in worker and queen cells. The egg that produces a queen is precisely the same as one which produces a worker; only the cell is enlarged, and the bees feed it throughout its larval existence the richer food that is given to the worker larva during its first 3 days.

Danzenbaker Hive—Shaken Swarms—Italianizing Colonies—Rendering Wax

1. What do you think of the Danzenbaker hive?
2. Which smoker will suit me best—the Bingham or 20th Century?
3. What is the shake-swarming method?
4. If I would get an Italian queen could I Italianize the rest of my colonies with her? If so, how?
5. Does poultry catch bees?
6. Will combs in sections or frames drain thoroughly if uncapped?
7. What is the best way to render wax if no extractor is at hand?
8. Of the different styles of sections, with which do the bees store the most surplus, if any difference? I mean the narrow and tall, or the standard.

Pennsylvania.

Answers.—1. I do not think it is as good as it is sometimes claimed to be. I do not like it as well as the dovetailed.

2. I don't know.

3. Here's the way to shake a swarm: Set the hive off its stand and put in its place a hive containing empty combs or frames filled with foundation. Take the frames of brood and bees one after another out of the hive, and shake the bees into the new hive. Thus you have a shaken swarm. As to the disposal of the frames of brood, you may leave enough bees on them to take care of the brood, setting the hive on a new stand and giving it a queen or queen-cell; or you may brush the combs clean of bees and distribute them to colonies in need of them.

4. Yes; get the queen introduced and established in a full colony, and a week after she has begun to lay, weather and harvest being favorable, you are ready to begin operations looking toward the Italianization of your remaining colonies. There are different ways of proceeding. One is to rear queens, as described in your bee-book, allowing each nucleus to have a queen and then building up each nucleus to a full colony. One of the easiest ways to do this is to take from your Italian colony 2 or 3 frames of brood and bees with its queen, putting the same in an empty hive and setting it on a new stand, with its entrance plugged with leaves or grass, to be opened 2

or 3 days later. (Don't think of doing this till the season has fairly opened, the colony strong, and bees gathering well from the flowers every day.) A week later let the 2 hives swap places. In the queenless hive you ought now to find a lot of queen-cells, each cell containing a young princess of the desired blood. You may reasonably expect at least 5 to 10 such cells, and 2 or 3 days prior to this time you may have removed the queens from perhaps 5 colonies. To each one of these 5 colonies you may now give one of the cells in question, with the reasonable expectation of its maturing into a queen of superior blood. Whether it shall produce worker progeny of pure blood or hybrids depends upon whether the young queen mates with an Italian or a black drone, the chances being largely in favor of its being a black drone if black bees predominate in the neighborhood.

An easier way can be used, if you are satisfied to Italianize only half a dozen or so colonies. Give your Italian colony sealed brood from other colonies, swapping these frames of sealed brood for frames not so well filled. This for the purpose of making the colony so strong that it shall be the first to swarm. When it swarms, set the swarm on the old stand, and put the stump (or mother colony) in place of the next strongest colony in the yard, setting this strongest colony in a new place. When the stump swarms again, which it will do in 8 days or so, set the swarm in its place, and put it in place of the next strongest colony, and continue doing this as long as it continues sending out a swarm.

5. The general testimony is that poultry will eat drones but not workers.

6. No.

7. One of the easiest ways for a small amount is to put the pieces of comb to be melted into a dripping-pan and put it in the oven of a cook-stove. Keep the oven-door open, have one corner of the pan split open, and have this corner project outside, with a dish under it to catch the melted wax. A little stone, or something of the kind, should be under the pan at the corner farthest inside, so the wax will run down-hill to the open corner.

8. Probably no difference.

Use of Queen-Excluding Zinc—Tan-Bark for Bee-Yard and Walks

1. We have a five-sixteenths bee-space above the frames, and do not allow the zinc to "sag" as you suggest. We split slivers of lath and lay 2 or 3 small pieces across the tops of the frames to hold the zinc-excluder up. Of course, the zinc costs high when used the full size of the hive; but I want to give the bees all the chance there is.

A friend of mine, who, I judge, economizes at the wrong end, uses on some of his hives only one-third of perforated zinc, and the other two-thirds of cheap unperforated tin. I think this is bad for honey-production, and I could not be induced to use *it* on a hive of mine, and should like to know what you think of it. Don't be afraid to tell all you know, and even what you think may bring out what some one else knows.

2. Does not the continued passing of the bees through the zinc tend to wear out their wings and thus shorten their lives?

I saw something in your answers about gravel for walks. About as nice a thing as I remember for the purpose, was long ago when this was a country for tanning with hemlock bark, and in a bee-yard the walks and hive-stands were of "spent" or used tan-bark. I suppose there were no "smokers" in those days to set it on fire with a spark, which might happen in a dry time. Whether it kept down the grass mechanically like the gravel, or whether there remained anything in it chemically injurious to vegetation, I could not say. ONTARIO.

ANSWERS.—1. So far as concerns passing back and forth, one-third of the space is more than sufficient; but bees de better to be, so far as possible, all in one compartment, their inclination being to form a single cluster, and the separation made by having so much as two-thirds of the brood-chamber covered either by wood or tin is certainly objectionable. The objection is greater when working *for* comb honey, the difference in the work being plainly seen in the *parts* thus cut off from direct communication with the brood-chamber. The full sheet of zinc, as used by you, offers the least obstruction possible in the use of an excluder.

2. I hardly think the wearing of the wings by the zinc is a serious matter. But even if it was, it isn't a matter of any consequence to producers of comb honey, for in their regular work they have no need of excluders; and so good a bee-keeper as C. P. Dadant says he has no use for an excluder for a colony producing extracted honey.

Is Smartweed Honey Peppery?

Will honey gathered from smartweed be strong in taste like pepper? Last year the honey gathered in the fall was so strong after being swallowed that it would burn the throat for 2 or 3 hours. Smartweed was plentiful. TEXAS.

ANSWER.—The general run of what is called smartweed honey will not smart your mouth at all. But the plant from which it is gathered hardly ought to be called smartweed, for if you chew the leaves it will not smart your mouth any more than to chew so much lettuce. It also goes by the name of heartsease—the better name; the botanical name being Persicaria mite. Persicaria punctatum is the real smartweed, and if you chew a leaf of that you'll wish you had let it alone. I don't know about the honey from this, whether it is acrid or not, but it is possible. Will some one who knows please tell us about it?

Reports and Experiences

Awful Winter on Bees.

This has been an awful winter on bees, some losing all they had. I saved all of mine, thanks to the American Bee Journal. F. P. Daum.
Clinton, Mo., April 16.

Clover Seems All Right.

I have 32 colonies of bees, having put 35 into the cellar. I united 3 with stronger ones this spring. Clover seems to have wintered all right in this part of the state. Will Arbuthnot.
Woodman, Wis., April 11.

Poor Crop in 1905.

I have 16 colonies and bought 11 more, making 27 in all. By putting the weak colonies on top of the strong ones I lost half of my queens. I had 200 pounds of honey from 16 colonies, spring count, and no increase. The crop was poor here. It was too cold and wet. A. L. Oliver.
Ronneby, Minn., April 8.

Heavy Loss in Wintering.

You may put me in "blasted hopes," but I shall not stay there long, for this is not the first time in my experience. I had 85 colonies last fall. I now have 30. They are very weak. I am feeding them every day. So you see I lost 55 colonies during the winter, from starvation. Nearly all the bees in this neighborhood have died.

I will buy some bees in box-hives and try it again. I don't know how Mr. Stone's bees wintered, but I think they did better than mine, for he had some sweet clover in his neighborhood. C. Becker.
Pleasant Plains, Ill., April 12.

Bees Not in Good Condition.

Bees in this locality are not in very good condition this spring, caused mainly from lack of sufficient honey of good quality to winter on. I would place the loss up to this time at from 10 to 50 per cent. The prospect for white clover is from fair to good. H. G. Wykoff.
Norwalk, Iowa, April 13.

A Variable Spring.

Wintry April—then a little taste of sultry, hot summer—now blowing cold again. The present prospect is that I shall lose some colonies of bees, but that the loss will not be great. Quite a number, however, will not be as strong as they should be. E. E. Hasty.
Toledo, Ohio, April 14.

Away Down in Florida.

The climate here is fine, and it is a great bee-country. Bees are doing well here; they are storing some honey. We had frost one morning last week and one this week. The first swarm issued on March 16. We have had 5 all together so far. I am working in the apiary of S. S. Alderman, of Wewahitchka. We have had considerable rain. Peaches are as big as the end of your finger. L. A. Cameron.
Dalkieth, Fla., April 4.

Bees Making Things Hum.

This is about the first real nice day we have had this spring. The bees are making things hum. We have 14 colonies and have always wintered them on the summer stands, and have not had any freeze or starve since we have had them. The last three years have been poor for honey, as it has been too wet. But, thanks to the American Bee Journal, by following its advice we have had more honey than the bee-keepers who let the bees take care of themselves. E. L. McClaskey.
Girard, Kan., April 6.

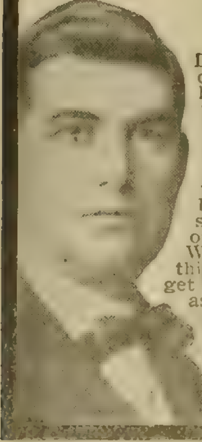
Good Results in Wintering.

On November 23, 1905, I put 96 colonies into the cellar and 47 in an out-shed. I lost only 2 in the shed, and those I knew would not winter. I took them out last week, and they are all in good condition and strong in bees. After I put them in I never looked at them until I took them out. They were piled up on top of each other in both places, with bottom-boards and honey-boards on the same as they are out for summer, and I believe that is good wintering.

We are having a backward spring here, but I hope it will open up soon, and that the bee-keepers will have a good season. Wm. J. Healy.
Mineral Point, Wis., April 9.

CONVENTION NOTICE.

Western Illinois—The semi-annual meeting of the Western Illinois Bee-Keepers' Association will be held in the County Court Room, in Galesburg, on Wednesday, May 16, commencing at 9 a m. and lasting all day. Messrs. C. P. Dadant and J. Q Smith have promised to be present and contribute to the success of the meeting. Our meetings have been good, but we hope to make this one better. Galesburg has good train-service, and all bee-keepers in this part of the State should not fail to come. Come, and bring your wives with you. E. D. WOODS, Sec.
Galesburg, Ill.



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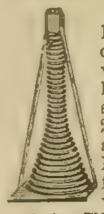

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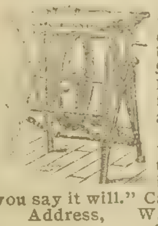

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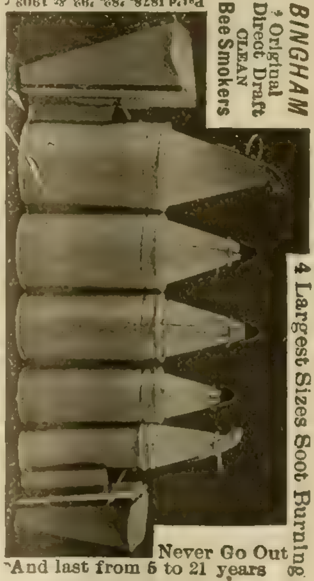

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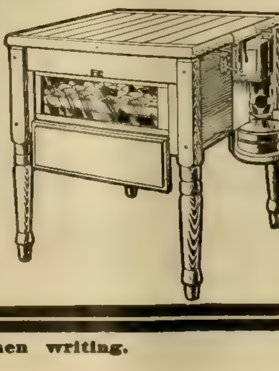

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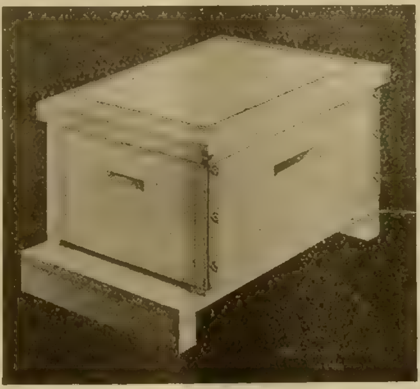

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Honey and Beeswax

CHICAGO, April 20.—There is very little comb honey on the market, and as usual at this season of the year the demand is very limited. There is no change in the prices obtainable from recent quotations. Choice white comb will bring 15c when wanted; other grades are of uncertain value, ranging from 10@14c per pound. Choice white extracted, 6½@7c; amber grades, 5½@6½c. Beeswax, 30c per pound.
R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
GRIGGS BROS.

INDIANAPOLIS, March 24—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, April 23.—The season is now so far advanced that there is very little call for comb honey; not enough sales to fix a price. Some little odd lots, parties are selling at the best offers they can get. Extracted honey, for fancy grades, is also low. Medium and low grades are in abundance. We quote: Fancy white, 7@8c; amber, 6@7c; dark, 5@6c.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, March 19.—Demand for comb honey is fair, especially for the better grades, and fancy white is selling at from 14@15c; No. 1, 13c; light amber, 11@12c; no more demand for dark comb honey. Extracted is in good demand, mostly California, at unchanged prices. Beeswax is firm at from 29@31c, according to quality
HILDRETH & SEGELKEN.

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C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

CINCINNATI, April 4.—There is no material change in the honey market since our last report. The demand does not come up to expectations, which, in all probability, is due to the inclement weather of the past month. We continue to quote amber in barrels at 5¼@6½c. Fancy white in crates of two 60-lb. cans at 6½@8½c. Choice yellow beeswax 30c. delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, April 21.—Receipts of comb honey are light, as is also the demand on both comb and extracted. We quote fancy white, 24-section cases at $3@$3.25; No. 2, 24 section, $2.75. Extracted, amber, 5@5½c; white, 6@6½c. Beeswax, 25c per pound.
C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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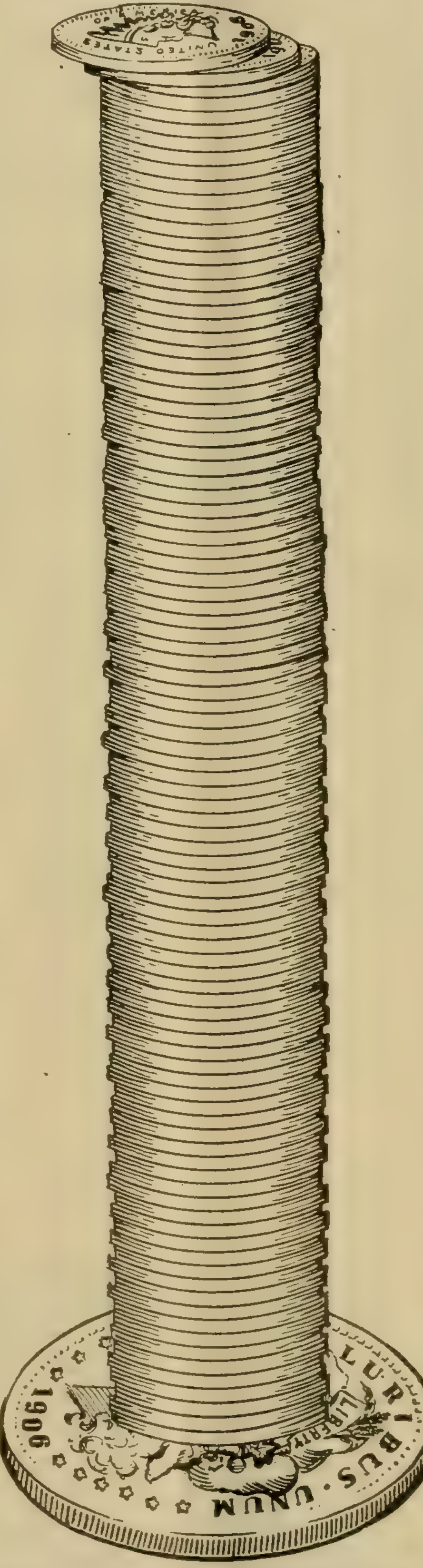

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I want to say that I consider your make of sections the nearest perfect I have ever had. I have folded packages of 500 without breaking one, and I can not say that of others I have used.
GEO. BROWN. Deerfield, Iowa.

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DAVID FOOTE. Riceville, Iowa.

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C. H. HARLAN. Mora, Minn.

I have received those sections in good shape, and I am well pleased with same. They are all right in every way. I shall recommend your bee-supplies to other bee-keepers. I think you make better goods than any other firm in the world. Accept my thanks.
GEO. B. MCDANIELS. Grand View, Iowa.

HIVES

We note that the Lewis Goods for the season of 1906 are finer than ever. Hives and hive-parts are without any knots at all. In fact they are so nice that we are very much surprised, as we supposed that as lumber gets scarcer and higher necessarily poorer grades of lumber would have to be used. We are receiving many compliments on the Lewis Goods we are shipping out.
A. G. WOODMAN CO. Grand Rapids, Mich.

About two months ago I bought 25 of your 8-frame dovetailed hives, and I put these together without losing a single piece. I find these hives to be better than any other I have ever used. Although I have a gas engine and good tools, I can buy your hives cheaper and more accurately made.
E. K. MEREDITH. Batavia, Ill.

Your hives look as if they had been sand-papared after they are nailed up. I have just finished nailing up 40 two-story hives, and they are as nice as could be.
L. B. SMITH. Rescue, Tex.

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TOFIELD LEHMAN. Elgin, Iowa.

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E. W. LYLES. Charlotte, N. C.

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HARRY WEST. Morrison, Ill.

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D. S. HAAG. Rock City, Ill.

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D. M. LAUDENSLAYER. Mackeyville, Pa.

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I would like to thank you for your prompt way of doing business in such a season as this when every one is excited.
E. W. COE. Aug., 1903, Clarence, Iowa.

I wish to acknowledge receipt of the goods ordered from you, and thank you for your promptness in sending them.
CLAUDE L. MADISON. Alden, Ill.

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LEOPOLD MOLLER. Fremont, Nebr.

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C. THEILMANN. Theilman, Minn.

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H. LUKE. Burlington, Wis.

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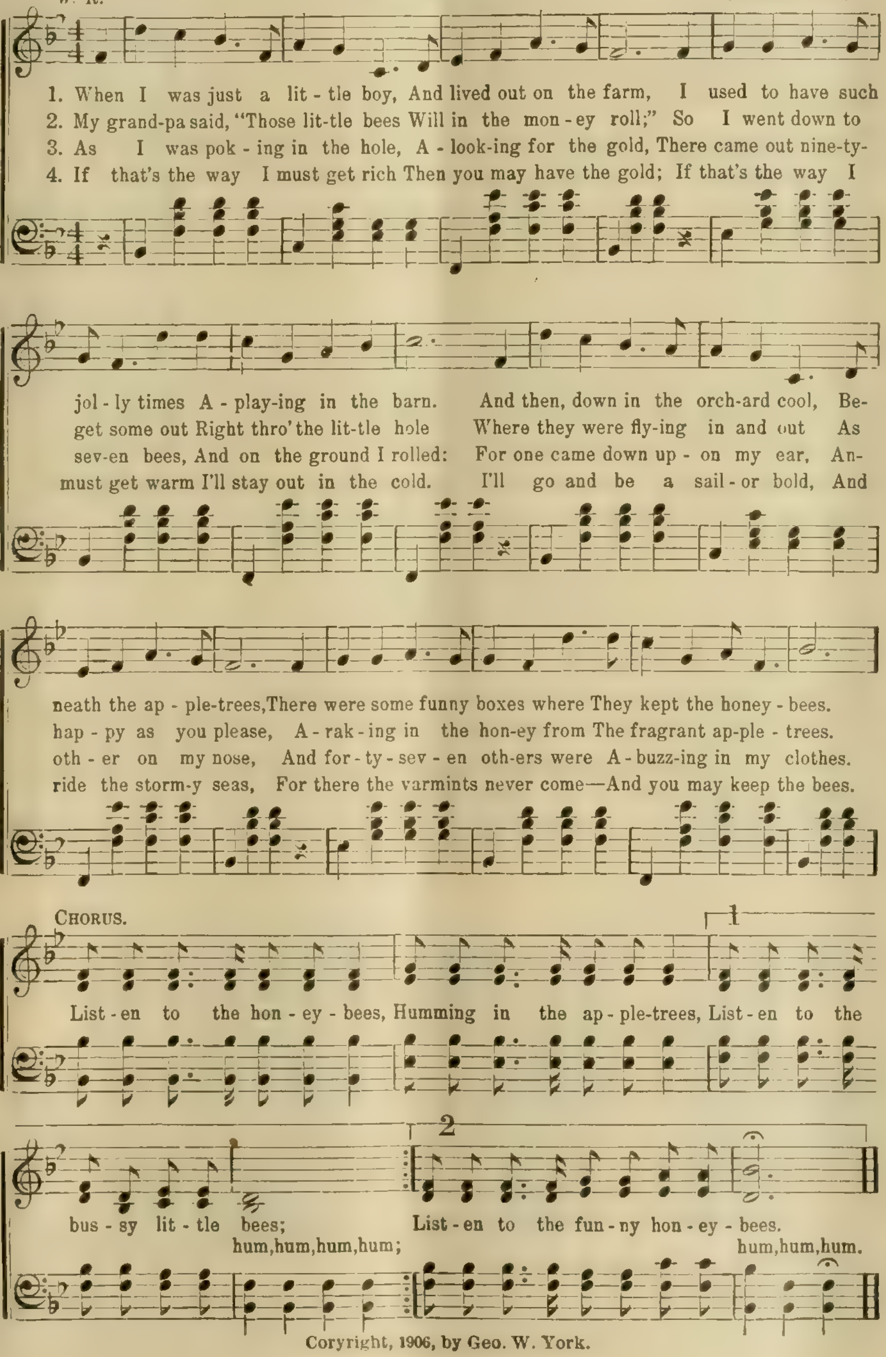
AMERICAN
BEE JOURNAL

46th Year CHICAGO, ILL., MAY 10, 1906 No. 19

The Humming of the Bees.

Solo and Chorus.

J. R. JAMES ROAT.


1. When I was just a lit - tle boy, And lived out on the farm, I used to have such
2. My grand-pa said, "Those lit-tle bees Will in the mon - ey roll;" So I went down to
3. As I was pok - ing in the hole, A - look-ing for the gold, There came out nine-ty-
4. If that's the way I must get rich Then you may have the gold; If that's the way I
jol - ly times A - play-ing in the barn. And then, down in the orch-ard cool, Be-
get some out Right thro' the lit-tle hole Where they were fly-ing in and out As
sev-en bees, And on the ground I rolled: For one came down up - on my ear, An-
must get warm I'll stay out in the cold. I'll go and be a sail - or bold, And
neath the ap - ple-trees, There were some funny boxes where They kept the honey - bees.
hap - py as you please, A - rak - ing in the hon-ey from The fragrant ap-ple - trees.
oth - er on my nose, And for - ty - sev - en oth-ers were A - buzz-ing in my clothes.
ride the storm-y seas, For there the varmints never come—And you may keep the bees.
CHORUS.
1
List - en to the hon - ey - bees, Humming in the ap - ple-trees, List - en to the
2
bus - sy lit - tle bees; List - en to the fun - ny hon - ey - bees.
hum, hum, hum, hum; hum, hum, hum.

Corytight, 1906, by Geo. W. York.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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Contents of this Number

Illustrations—

Dummy or Division-Board........ 405
Feeder for Spring Feeding........ 402

Music—

The Humming of the Bees........ 397

Editorial Notes and Comments—

Davenport's Control of Swarming........ 401
Look Out for Nectar-Dearth After Fruit-Bloom 401
National Convention at San Antonio........ 401
Perhaps a Valuable Reminder........ 401
Prospects Good "In this Locality"........ 401

Miscellaneous News Items—

Feeder for Spring Feeding........ 402
San Francisco Earthquake and Fire........ 402

Contributed Special Articles—

Dadant Methods of Honey-Production (No. 10) 405
Mice, Rats, Chipmucks, Squirrels, and Honey 403
Purity of Yellow-Banded Bees........ 404

Canadian Beedom—

Bees Gather Honey in Winter........ 406
Conditions Conducive to Success........ 406
Elementary Directions in Bee-Keeping........ 406
Good Advice for Beginners........ 406
"Wood-Binder" for Bee Journals........ 406

Southern Beedom—

Chyle and Impulses........ 406
Order of Bees in the Cluster........ 406

Our Sister Bee-Keepers—

Br. Colomban's Honey-Cakes........ 408
Green Hellebore........ 408
Honey Good for Discolored Neck........ 409
Planting Flowers for Beauty and Bees........ 408
Weak and Queenless Colonies in Spring........ 407

Mr. Hasty's Afterthoughts—

Marketing Comb Honey........ 408
Preparing Watering Places for Bees........ 408
Selling Honey........ 408
That Hive of Bees Struck by Lightning........ 408

Dr. Miller's Question-Box—

Albino, Banat, and Cyprian Bees........ 409
Best Book on Bees........ 409
Buckwheat Honey in Brood-Chamber Darkening Surplus Honey........ 409
Changing Bees from Old to New Hives........ 409
Finding Queens........ 409
Getting a Honey Crop and Then Transferring the Bees........ 409
Raising the Hive for More Ventilation........ 409
Scented Water to Throw on Bees........ 409
Stopping Swarming........ 409
Using Wood Splints Instead of Wire in Combs 409

Reports and Experiences—

Apiculture in California........ 410
Colonies Weak—Feeding........ 410
Last Season Not a Good One........ 410
Not a Good Bee-Country........ 410
Putting a Weak Colony Over a Strong One........ 411
Temperature of a Bee-Cluster........ 410
Very Early Swarm—Good Prospects........ 410
Wintered Fairly Well........ 410

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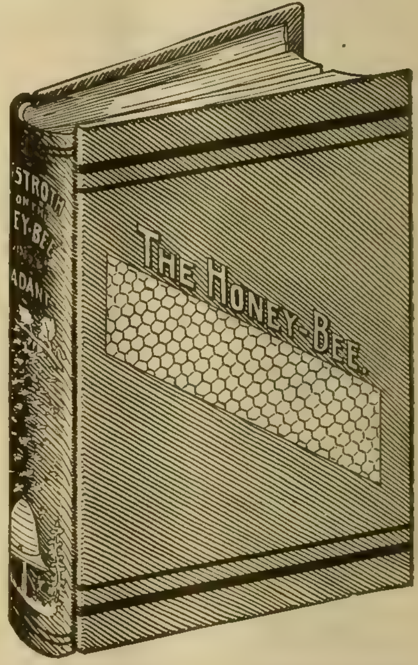
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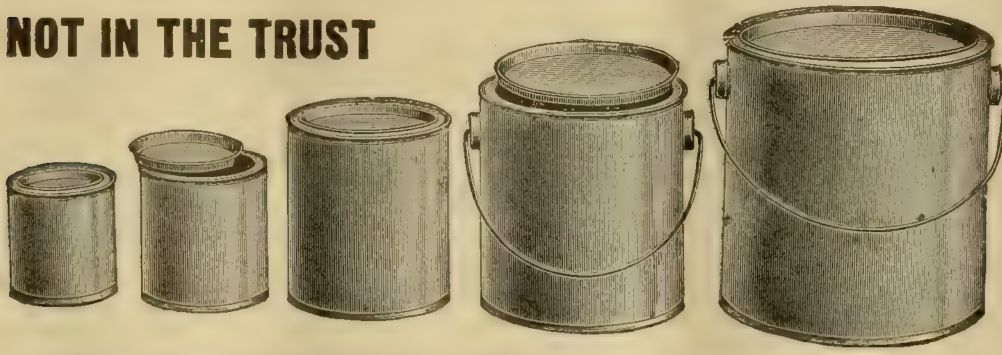

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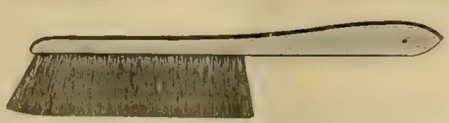

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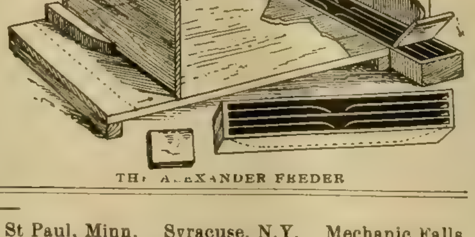

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GEORGE W. YORK, Editor CHICAGO, ILL., MAY 10, 1906 Vol. XLVI—No. 19

Editorial Notes and Comments

Prospects Good "In This Locality"

In the region round about Chicago—and that may take in a radius of many miles—there is nothing in the horoscope to make bee keepers feel blue. The mild character of the winter has left the roots of white clover unharmed, and nothing short of a killing drouth will prevent a carpet of white when time comes for the bloom. Of course, there is always the possibility of a poor yield even when there is the carpet of white, as it was last year, but bee-keepers are an optimistic lot, and will have the pleasure of expecting the best at least, so long as there is any chance for expectation.

The weather in March was severe, but bees were mostly in the cellar during that month, and since then the weather has been of the most favorable character.

Perhaps a Valuable Reminder

"Along about this time," as the almanacs used to say, look out for reminders to order early whatever may be needed in the bee-supply line.

We will never forget the awful rush for hives, sections, etc., during the season of 1903. We were then in the bee-supply business, and at the same time acquired some valuable experience. And, fortunately or unfortunately, survived to tell the tale. The frantic rush for bee-supplies that season, which began early and continued late, was something not soon to be forgotten by all concerned. Even the factories could not turn out the goods fast enough. And those bee-keepers who delayed ordering until just about the time they actually needed the hives, etc., must have lost much honey, and some bees.

In view of the annual rush for bee-supplies that comes almost every year during May and June, we wish to remind our readers that it is better to order *early*, and thus have the supplies on hand *before* they are needed, rather than not to have them in time, or be compelled to wait until the dealer can reach your order and the railroad train bring them to your station.

Be wise and also forehanded, by ordering your bee-supplies *at once* if you have not done so already.

Look Out for Nectar-Dearth After Fruit-Bloom

While fruit is in bloom there is generally enough coming in for daily needs, yet daily needs are great, and it is wise to make sure that abundant stores are in the hive. In some places in the North there is no break between fruit-bloom and white clover, but in most places there is a decided gap. At this time stores are melting away rapidly, owing to the large amount of brood to be fed, and if there is no overplus when the dearth after fruit-bloom comes there is great danger that the queen will cease laying. Let the dearth continue long enough and not only will laying cease but all the unsealed brood will be destroyed.

Suppose a colony has nothing ahead during fruit-bloom—just living from hand to mouth—and fruit-bloom closes with nothing in the larder. Figure up what it will mean if laying ceases entirely for only a week, and only unsealed brood is destroyed. It is probably a very moderate estimate to say that it will make a difference of 10,000 bees to work upon clover.

The moral of all this is to make sure that plenty of stores are in sight at the close of the fruit bloom. If the break is long enough, it may even be advisable to feed a little every other day, so the bees may not take into consideration the necessity for retrenchment. Abundance of stores in the hive will be sufficient for a short dearth without any feeding, but not if the dearth be sufficiently long.

Davenport's Control of Swarming

We have written to Mr. C. Davenport, of Southern Minnesota, several times, trying to induce him to describe his method of controlling the swarming of bees, but have not succeeded in persuading him to do so. In reply to our last request, he wrote as follows, under date of May 2:

MR. GEORGE W. YORK—

Dear Sir:—I have decided not to give my method for the control of swarming free to all the bee-keeping world. For, as I have said, if it becomes known to all it will most SURELY GREATLY increase the amount of honey produced. And for this reason I think it would prove a curse instead of a benefit. I much regret if anything I have written will cause the American Bee Journal to suffer as you intimate. Surely nothing of the kind was intended.

Bees have wintered exceptionally well, but the spring so far has been about the most unfavorable I have ever known. There have been but a very few days fit for the bees to fly. This morning it is nearly down to the freezing point, with a fierce north wind, heavy, low-hanging clouds, and it looks and feels as if there might be a snow-storm.

C. DAVENPORT.

We trust the foregoing will satisfy those who have written to us, asking that we induce Mr. Davenport to tell his secret as to the control of swarming. However, we have no doubt there will be others who will discover it, and give it to the world, and thus be entitled to the honor. Mr. Davenport will then be the loser. But he must decide for himself in the matter, and has decreed to withhold his secret.

National Convention at San Antonio

The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9 and 10, 1906, in San Antonio, Tex. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

W. Z. HUTCHINSON, *Sec.*

We are glad that the time and place of the next National Convention have been settled. Now all can begin to plan to attend. It will be the National's first meeting in the far South, and it will be a splendid opportunity for Northern bee-keepers to visit that interesting portion of our great country. There should be no difficulty in getting a big carload of bee keepers from North and East to take the trip together from Chicago, as the round-trip rate will be only $25, leaving here on Tuesday, Nov. 6. There will be home-seekers' rates every Tuesday until the end of November.

Miscellaneous News ✣ Items

The Progressive Bee-Keeper, published for many years by the Leahy Mfg. Co. at Higginsville, Mo., has been purchased by The Helpful Hen, of Topeka, Kans.—a new monthly publication devoted to poultry, bees and pigeons. Mr. R. B. Leahy, founder of the Leahy Mfg. Co., recently passed away, also.

The Humming of the Bees—words and music by Mr. James Roat, of Canandaigua, N Y.—is very appropriate just now. By placing it on our first page it will doubtless be sung by thousands of bee-keepers, and also enjoyed by them. We can furnish extra copies of the song, on single sheets, for 10 cents each, postpaid; or 3 copies for 20 cents (stamps or silver). Address all orders to the office of the American Bee Journal.

J. D. Forsyth, a bee-keeper of Orange Co., Fla., when on his way to Nebraska, last week, made this office a brief call. He had 30 colonies of bees, and during the orange bloom, which began April 1, he secured about 70 pounds per colony. He sold it all in his home market, the most of it going to Northern tourists who had been spending the winter in "The Land of Flowers." Doubtless they took some of it home with them, as they were about to return to the North.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued in April. The complete new 344-page book, bound in cloth, is sent postpaid for $1.00; the Appendix alone for 10 cents. Or, the book and the American Bee Journal a year—both for $1 80; the Appendix and the American Bee Journal a year in advance, $1.00. Send all orders to the American Bee Journal office.

The San Francisco Earthquake and Fire are again referred to in the following from Mr. W. A. Pryal, who suffered quite a good deal of loss thereby. Last week we published a brief postal card extract from him, but in this Mr. Pryal goes into detail a little more:

OAKLAND, CALIF., April 24, 1906.

DEAR MR. YORK:—You have had my recent postal, I'm sure. Besides, you read the news of our calamity. From what I can learn, the Eastern papers exaggerated it. 'Twas bad enough, to be sure, but why lie about it? It seems in the matter of "doing" an earthquake or a fire story, those paper-men have to keep as far from the truth as they do when they are dealing with bee and honey stories.

But the 'quake was big, but not bad—not as bad as reported, by a whole lot. I had a letter to-day from an Eastern cousin. She imagined, from the paper reports, that we were doomed—that the cities hereabouts were entirely ruined. Why, bless you, the sky-scrapers are all standing, with hardly the loss of a stone; but some of the poorly-constructed wood or brick buildings went down, and these mostly on the filled portion of the city. Most of the water front, and some other portions, were filled in. In the '50's and '60's lots of the sand-hills were graded to fill in the bay and boggy places. These portions of the city are consequently unstable.

It is not known how many were killed by the earthquake. There may have been several hundred. It was the fire that was awful.

No one was allowed to get into the city for some days. I got on two boats the morning of the 18th, in hopes of getting over to attend to my affairs, but, with others, was ordered ashore. So my office was blown up, and burned. My loss, individually, to clothing, books and household articles that I had stored there, as also my interest in the copartnership, fixtures, etc., is considerable. I did not move over permanently when I came here nearly a year ago, but lately I decided to send all my effects to this side of the Bay, and had them pretty much all packed to send over.

The 17th was my birthday. Before coming over that evening I hastily packed up 7 or 8 of my works on bee-culture, and brought them home. Some 5 or 6 I left behind. Before that I had brought over others. I lost those 5 or 6 bee-books, a lot of volumes of Gleanings and the Bee Journal, besides about 200 other volumes—about half of my library. If I had gotten over I should have saved them, and a lot of other things.

We lost 2 typewriters, 5 desks, etc. Well, they are all gone with the other things that went to make up the biggest fire in the history of the world.

San Francisco is to be rebuilt on a grand scale—a plan that will make it the most modern and finest city in the world. If they keep out "graft" and saloon politics, the city will be a paradise.

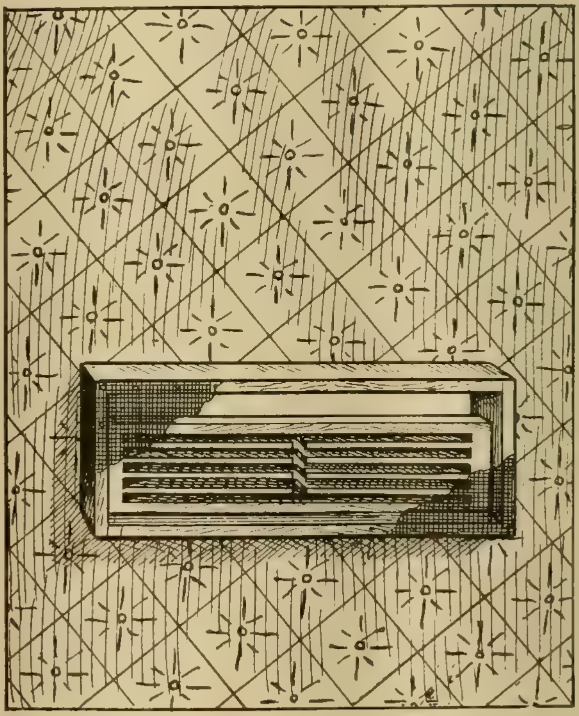
The fire has made Oakland hum, and it will spring up to importance. It is on the right side of the Bay, and can't help growing; and, still, San Francisco has the best water frontage. It's the center of the Pacific shipping interests, and always will be, I think.

W. A. PRYAL.

We thought the foregoing authentic report would be of interest to our readers. Of course, all will learn the fuller details in other sources. It would not be appropriate to use more space in a bee-paper, we think, to describe the terrible calamity further. We hope what bee-keepers may have been affected will soon recover from their loss. The manner in which the whole country has responded is indeed encouraging, showing that there is genuine sympathy and generosity still in the hearts of the people as a whole.

Feeder for Spring Feeding.—A. W. Swan, of Centralia, Kans., sends one of his spring feeders, which is made something like the Miller feeder, but on a smaller scale. Here is what he says of it:

I have arranged the best feeder for spring feeding that I have ever tried. I send one under separate cover by this mail. Place the feeder over the brood-frames, and put on an empty super and the cover. To keep the bees warm, place a cloth of some kind over the feeder. When you wish to feed, simply raise the quilt, pour in the feed, and cover up the feeder, and your bees are not disturbed. And no bees fly in your face.



A. W. SWAN.

A hole is cut in oilcloth a little smaller than the feeder, 4x11 inches; and then the oilcloth is tacked to the bottom edges of the feeder. A wire-cloth is tacked on top of the feeder, through which the feed is poured. As will be seen from the picture, the bees can come up from below and get to the feed, but can not get out anywhere, as the oilcloth and feeder cover all the top of the brood-frames. For feeding small quantities it is a fine arrangement. Of course, an empty super must be on the hive, in order to have room for the feeder and packing. In fact, the oilcloth and feeder could be put in place in the fall, when preparing the bees for winter. Then it will be ready to feed at any time in the spring.

Mr. T. F. Bingham, of Farwell, Mich.—the well-known Bingham bee-smoker man—reports a fine trade so far, and that it promises to continue. He also writes, under date of April 30, that his bees have wintered well.

Contributed Special Articles

Mice, Rats, Chipmucks, Squirrels, and Honey

BY G. M. DOOLITTLE.

I SEE by the American Bee Journal that both Mr. Hasty and Dr. Miller "entertain some doubts" about mice eating honey. I looked carefully for some proofs regarding those doubts, for something to show that I was wrong, and for some reasons which led them to doubt, but neither of them give any proof or reasons for their doubting my statement that, "The house-mouse eats the honey, and does not touch the bee as food."

Mr. Hasty says, "I think the house-mouse rarely eats honey except when near to starvation—but sometimes peels the cappings off for pastime, when time hangs heavily on his hands. However, poor mousie does face starvation at close range pretty often, in which condition he naturally has to eat anything he can get." After admitting that much, I cannot see why Mr. Hasty "entertains some doubts" that the house-mouse eats honey, for he virtually admits that it does, though he qualifies it by saying that it is only when "near starvation" that it does so. But when not near starvation it "peels the cappings off for pastime, when time hangs heavily on his hands." Glad to learn this. But you will note that Mr. Hasty is very guarded in what he says. Instead of giving any proof for any of this, he prefaces it with "I think." Well, nearly all of us think good thoughts sometimes; and sometimes those which are not well-grounded.

But it will be noticed that the good Dr. Miller is still more guarded and shrewd about his "some doubts," for he does not even venture an "I think." He proposes that Mr. Hasty conduct an experiment to prove that his doubts are correct. Then he takes all the "thunder" away from Mr. Hasty's "I think the house-mouse rarely eats honey except when near starvation," and wants that gentleman in conducting the Doctor's proposed experiments, to pile corn, oats, wheat, barley, grass-seed, pumpkin and squash seeds, etc., mountain high all about the mouse, the only exception made in this epicure diet being that it shall have no sweet except honey.

This makes me think of the way resorted to, to prove that an old soldier would not eat "hard-tack." They piled pork and beans, roast beef, sausage, pie, doughnuts and cake all about him, and then put two or three of the hard-tack down deep in a bucket where he could just squeeze his hand in if he got it, and then sat down to watch him behind some bushes. Soon he tried all the goodies—goodies to this soldier—and ate of all till he needed nothing more, except exercise, when he went for the bucket, fished out the hard-tack, and went to throwing them at a mark he had set up.

So Dr. Miller wants Mr. Hasty to provide the mice with all they can possibly eat, and besides give them " a new comb containing a little honey, none of it sealed, and none of the cells well filled, and then let him report to us whether the mice have torn down any of the cells to get at the honey, and whether they have torn down for mischief any of the cells that do not contain honey." Oh! Doctor! Mice are not like an old soldier. When they have eaten till they are full, they generally lie down and go to sleep. And then, the places where they congregate are not apt to have "food in abundance" therein. As Mr. Hasty says, the majority of the time the mouse faces starvation; and at such times it eats honey, as Mr. H. allows.

My article on page 120, which called out this matter, was written about mice troubling bees in *winter* by getting into the hives, and therefore carries with it the idea that the mouse must live in the cellar with the bees, or in the out-door hive with them. We do not put an "abundance" of mouse food in such places here in York State, whatever they may do in Illinois.

But now to the reasons for what I said regarding the house-mouse eating honey: I supposed that my honey-room was mouse-proof, till one day I looked at some fancy section-honey I had standing on a platform therein, when, to my sorrow, I found several places where the capping had been peeled off the surface of the combs in these nice, fancy sections, just as Mr. Hasty says the house-mouse will do "for pastime when time hangs heavily on his hands." I took these sections and placed them on the hives again, leaving those that were all right just where they were. As some children had been in the shop and honey-room the day before, I thought the work was done by them; yet I did not see why children should do work in that way. I left the door of the honey-room open while I went into the room where I write articles, for something, which I did not readily find, leaving the door of this room open also. I was detained longer than I expected, and upon turning around to go out, I saw a mouse run across the shop floor and through a small hole in one corner, which apparently led into the honey-room. Thinking I might catch him I tip-toed to the other corner of the shop, where I could look into this honey-room through the open door. Nothing was in sight for several minutes, when the mouse carefully came up on the platform where the honey was.

I was all interest now, for I believed that here was the culprit, instead of the children. The mouse came up to the comb in the section, smelled of it a moment, when with an upward motion of his head he chipped off the capping to two or three cells, when he put out the tongue and went to lapping and eating the honey. This he continued to do till the honey was lowered enough in the cells so that the wax in the sides of the cells touched his mouth, when he went a little to one side and chipped off some more of the cappings, beginning to sip the honey again. I did not wait longer, but drove that mouse out in a hurry, stopped the hole and set a trap near it, baited with squash seeds, and the next morning I found that mouse in the choker-trap, having passed beyond the condition of wanting honey or anything else.

A year or two later I left some frames of sealed honey standing on the shop floor over night, and the next morning I found many larger places with the capping off and the honey licked off from under where the capping was. I said, "More mice." Still it seemed as if there must have been a lot of them to do so much work in one night. I went into the writing room, leaving the door open, as it was warm weather, and sat down to write an article for one of the bee-papers. When nearly half through, I heard a little noise on the shop floor, so I kept still and watched. Soon a big rat appeared, and cautiously went up to the frames of honey, smelled of the comb, and then began chipping off the cappings the same as the mouse did, only taking off much more at each bite, when he began to sip the honey. I watched him till he had taken the capping off in several places, sipping honey from each place, as soon as the cappings were off; when a little stir from me caused him to "scoot" in a hurry for his hole (which he had dug under the wall). This rat was more cunning than the mouse, for it took me a week to catch him, which I finally did by putting a cloth over a steel trap, and putting some honey, in bits of comb, on the cloth.

Then, we had a chipmuck—sometimes called striped squirrel and ground squirrel—that came to live in the bank near the house, as our home is near the woods. We thought much of him, and he soon got so he would climb all over me, take corn out of my hand, let me stroke him, etc. One day a friend of mine and myself were in the shop when he came in the door. The friend said, "See that chipmuck." I said, "Yes, he is our pet."

While we were talking the chipmuck went up to a comb of honey I had brought into the shop a short time previously, and began gnawing off the cappings and eating the honey. This pleased my friend immensely, so I let him eat what honey he wished, when he went out. But that was almost the spoiling of that chipmuck for me, for he would dodge into the shop every chance he could get, and finally dug holes under the wall, and became a great nuisance, till one day a neighboring cat got him. My wife was very sorry, but I did not know whether to be sorry or glad.

Then we had a red squirrel that came down to us from the woods, and he became a pet. In fact, several came, and we had all sorts of shows when the little ones were old enough to play. They would climb the screen-doors, chase each other about the porch, climb into my pockets and all over me to get things I carried about in my coat and pants' pockets for them. They finally found out there was honey in the shop, and gnawed holes to get in, and became a worse nuisance than any of the rest, one even getting drowned in the tank of extracted honey. My wife declared that the honey had to be thrown away, but I told her that I did not think it would hurt the bees any if we used it for feeding them.

Now, Messrs. Hasty and Miller, I have given you the reasons and grounds for MY knowing that the house-mouse, rats, chipmucks and red squirrels all eat honey, and unless you have some *positive* proof that they do not do so in your locality (?), your confidence need not be shaken in the matter that "Doolittle is usually accurate." Borodino, N. Y.

Purity of Yellow-Banded Bees

BY HENRY ALLEY.

JUST what constitutes purity in the yellow races of bees but few bee-keepers seem to know. When the late S. B. Parsons, of New York, imported the first yellow-banded bees from Italy, the inexperienced bee-keeper supposed that the bees were very yellow, and that all queens and bees bred from imported queens would be handsomely marked. But we were all disappointed, and queen-breeders were not alone in discovering that the so-called Italian bees were hybrids, and only a race of black and yellow bees crossed or in some way mixed in blood, and it was found impossible to rear clear-yellow queens, or uniformly marked worker-bees from any queen imported from Italy. This fact alone was enough to condemn them as hybrids. The young queens were marked from a solid black to striped and a rich leather color.

Very few bee-keepers of the present day know to what extent we poor queen-breeders were abused by our customers, and yet we were doing the best we could with the stock we had. When a customer had received a queen, all went well until the time arrived for the yellow bees to appear, and then the trouble commenced. The young bees were found to be marked with anywhere from 1 to 3 bands. We were accused of having our queens mated to black drones, etc. The fact was, all our young queens were mated by drones from the same mother the young queens were reared from. The drones were black enough, I assure you. Not even this inbreeding process improved the color or markings of the bees. American queen-breeders were not long in "catching on" to a way to improve the uniform markings and color of both Italian queens and bees, and it was the American queen-breeder who fixed the standard of purity of the Italian bee.

American queen-breeders soon commenced to select the brightest queens and drones for breeders. In the course of a few years thereafter the Italian bees were more uniform in markings, and thus was the standard of purity fixed, and much yellower queens and bees were produced. American bee-keepers are not indebted to the bee-keepers of Italy for the beautiful yellow bees we have. It is a fact that the bee-keepers of Italy continue in the same old rut, and will not, or can not, learn anything from the American queen-breeders. We find that to-day the imported queens from Sunny Italy are no improvement on those sent to America 45 years ago.

It does seem to me that the Italian bee-keeper, who some 15 years ago copied and printed my entire book of 180 pages on queen-rearing and sold it as the production of his own brain, and really forgot to mention in connection therewith my name, ought to have found some points in the work that would have led him to produce better queens and bees than those that are sent from Italy to America.

We got the 5-banded bees by inbreeding, but that process destroyed the vitality of the bees. The 5-banded business has been carried too far, as many bee-keepers have found to their sorrow. The 5-banders are beautiful to look at, and that one feature comprises their only good quality. I have contended for many years that the yellow bees of Italy are not native of that country. Like the gypsy and browntail moths now spreading out over New England, and which are reaching out each year farther and covering more territory all the time, so did the yellow races of bees of other countries reach out and take in the country of Italy. The yellow was mixed with the black and that is why we get only hybrid queens and bees from Italy. Here is a point: I brought into this country the first Carniolan queens. I commenced at once to rear queens from this stock. I noticed that many of the young queens had a decided coppery color, particularly on the under side of the body. Many of the bees from the young queens were marked by one or two yellow bands. I found that the tendency of the color of these bees was to yellow, with each successive generation. Every batch of young queens were more yellow than the previous ones. "Yes," says some one, "got mixed with the Italian." No, they did not. Had any one queen been mismated and met an Italian drone, one-half at least of the bees so crossed would have been marked by yellow bands. I am sure none of the Italians in my yard were crossed by the Carniolan drones. Both of these races were kept a long distance apart.

I continued to select the yellow queens from the imported mother, and have them fertilized by the lightest colored drones, and soon I had a fine race, or strain, of yellow Carniolan bees.

In Carniola there are two strains of bees—the steel gray, and the yellow bees. The latter are considered much superior to the gray strain, and are called Adels, which means *superior*. This is how I got my present strain of Adel bees, only I bred them up from the dark Carniolan queens in the first place.

Mr. Frank Benton, who spent many months in Carniola, says he never saw a colony of bees in that country that did not have more or less yellow-banded bees. Now, considering that the tendency of the Adel strain of yellow bees is to a brighter color instead of to a darker, as the Italians will surely tend if left to themselves, haven't I some foundation for my opinion as to the origin of the Italian bee?

E. R. Root says in September 1, 1905, Gleanings, that if the Italian bees are left to themselves they will run back to a black bee in color. The Cyprian and Holy Land bees are the only true and pure yellow-banded bees. All other yellow bees came down from them. Only by careful breeding can the standard in markings of yellow bees be kept up.

Most bee-keepers will have the yellow bees. If all the desirabe points go with the color, then let us have the yellow bees. Color without inbreeding is what is wanted. Only by selection can the color be kept to the highest point.

I have experimented for nearly 45 years in trying to produce a beautiful yellow bee that combined all the desirable points. What I have tried to do is not only to improve the color, or purity, but to breed up a strain of bees that are hustlers for honey, non-swarming, non-stinging, and that will winter in any climate. My present strain comes pretty near covering the above points.

I was at a meeting of bee-keepers in Boston, in March, 1905, and heard one of the speakers advise those present not to buy and introduce yellow races, as they would store no honey in the sections, but when they got strong enough to work in the sections they would swarm out. Now, isn't it a fact, that of the millions of pounds of honey produced in America nearly all of it is gathered and stored by the yellow races of bees? Where can a colony of pure black bees be found in America?

The same person who gave the above advice, for the first time in his life commenced to rear and sell yellow queens the past year. To be consistent, he should have reared and sold black queens.

I have had my present strain of yellow-banded bees the past 20 years, and never have had a swarm issue from them.

Then there are some strains of bees that surely swarm too much. Of course, such bees will store no honey, not even enough for their own use. Then there are strains of Italians that swarm very little, but they store the honey and are the bees for profit and pleasure.

In my experience with bees I found a man who had 12 colonies of beautiful bees in his yard. He did not want them and sent for me to buy them. "How much for the lot?" said I. "Take them out of the yard—no matter about the price. They are worthless and never have made any honey." As I could use them in nuclei, I took them home.

So much for the Italians.

The Cyprians came to us next. We all tried them. They would breed to color and not run back, but what were these bees good for? As honey-gatherers they were worthless, and I was not long in ridding my yard of them.

Then came the Holy Land bees. They proved about as valuable as the Cyprian, and much like them, but were no better. I can't say that in disposition the Cyprians and Holy Land bees were worse than the Italians generally.

Then came the Punic bees—a bee as black as coal; in fact, nothing could be blacker in color. They were about the same honey-gatherers as the last two spoken of. In disposition and activity they were fairly good. I see that one lonely bee-keeper keeps his advertisement of the Punics in one of the papers.

And now we have the Caucasian bees. What of them? The United States Government had these bees to give away. The people at Washington, who have these bees for free distribution, say they are good honey-gatherers and possess all the good points that bees should possess; that they do not sting, etc. What is the object of the Government speaking so highly of these bees unless it is as they state? It can't be to increase the sale of them, as there are none for sale. The people who condemn them, most likely do not have Caucasian bees in their purity, while at Washington they have the bee in all its purity, and we can take what they say of it as being true. My advice to those who want these bees is to try them for themselves. That is the best way to settle the matter of worth and value of the Caucasians.

In conclusion, I wish only to say that all the yellow races that have come to us from the warm climates have proved to be worthless. Only the Italians have stood the test. In the test for 45 years the Italians, in my experience, are as good as we want. I mean, by "the Italians," the hardy yellow-banded strains of bees. Essex Co., Mass.

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10—Dadant Methods of Honey-Production

BY C. P. DADANT.

I HAVE already described how we came to use large hives and the extracting system. I will in another article tell about the management for the crop. But before I go on, I wish to say to the reader that I am not trying to push this hive. Those who have Langstroth 10-frame hives can produce honey and suceed with them. Even those who have 8-frame hives can succeed by following methods similar to those of Dr. C. C. Miller, with whose system I lately became acquainted, and who is certainly one of the most thorough comb-honey producers. But for the production of extracted honey on a large scale by the methods that give the least labor, with the least swarming, I believe there is none that will produce as good results as the hive of which a cut was given on page 344. This hive is not patented. It is not difficult to make in any carpenter shop. The frames are the only part of the hive that requires circular saws, and they may be bought at small cost. Hives of this system, if well made, will last for 30 years. That is our experience.

Our hive is not very portable. It is rather heavy and cumbersome, and does not admit of tiering up bodies. The only thing in it that is expected to tier up is the super, and we have had enough of these on top of one another to raise the hives to almost a man's height. A friend who has read my previous articles asked me the other day: "What sort of a derrick do you use to lift one of those hives and carry it around?" Well, the truth is, we don't carry our hives around like so many bushel boxes. We don't think of moving our hives of bees around, from one place to another, any oftener than our chicken coop, our barn or our dwelling. There are times when it is necessary to move, but those times are to be avoided, whether it be bees, chickens or human beings.

One thing you may depend upon, these hives are sufficient for a large colony, and we get large swarms from them, because the bees are never cramped. When the European agent of the Root Co. (Mr. Bondonneau) came to America, he visited me. He had seen our hives in Europe, but only in comparison with the old straw skep. He was astounded to find colonies so strong, and said to me that he had not seen such stroing colonies at any other apiary he had visited in America, or Europe, either. It was in the month of August, and the colonies were strong indeed. Don't understand that we always have strong colonies. We have reverses as well as any one else. There is no royal road to success in anything. It takes perseverance and attention to get results and no hive, no system, will give the slovenly and careless a positive success. But the base and foundation of successful bee-keeping is to keep colonies strong and this may be done only by having room enough in the brood-chamber for bees, brood, honey, and pollen, in plenty.

It is held that there is something in location, as to the advisability of using large hives. It would be an error to deny the influence of location on any system, but I do not think location has as much to do with size of hives as management has. The least number of manipulations is required when the largest hives are used.

Two enquiries have just reached me concerning the division-board or dummy, which we use in our hives. The dummy used by most small-hive apiarists is just a thin board put in at the side, which is removed to give space when handling the frames. This, to my mind, is the least necessary use of a dummy. The reason why we call these boards "division-boards," is, they were intended originally to divide the hive into several compartments, and that we use them yet for separating the part of the hive that is used by the bees, from the empty space, whether large or small, at the side. True, in an out-apiary, where no divisions are made, where the colonies are all in good shape, the dummy is hardly ever moved. But when we have weak colonies, or have made nuclei, we dislike to place them in a large brood-chamber. It seems to us they feel about like human beings housed in a church or in a large hall—they want to have some sort of cozy corner where they can huddle together and keep warm.

The ordinary dummy is made free from all sides, so that the bees may not glue it fast. We don't want our dummies to allow the heat to pass off around each end, for, in that case, they are only equal to an ordinary comb in a frame. We think there is loss of heat in this space on the ends, and so we devised an end to our dummies that may fit without ever being tight, and without ever being glued fast in a way that would cause a jerk and a jar when the dummy is moved. This is achieved by nailing a strip of oilcloth or enamel cloth on the end of the dummy, so that it may make a soft half-circle, which rests well against the end of the hive, but which gives, and gets loose, at the least exertion. In this way we have a dummy that effectually encloses the colony of bees within the limits we desire. The bottom of the dummy might be fixed in the same way, but heat never goes down—it rises—so there is no deperdition of heat at the bottom, and we find it advisable to leave a bee-space at the bottom, so that the most active bees make the police of the empty room at the side.

When a small swarm or a nucleus is confined to, say about half the usual number of combs, until it gains strength, when combs are added to suit its need, the dummy is placed up against the last comb and there remains until more combs are added. A small colony may winter on six of our combs. The space behind the dummy is then filled with dry leaves. There is no necessity of explaining to the reader the advantage of such a wall of warmth-keeping material. The hive always faces south, with us, so that this heavy wall is on the most windy side, which is always west or northwest here. The hive being double on the back, the bees are very well protected against the high winds, and we ascribe a good part of our success in wintering to this method. We may say all we please about a cluster of bees keeping warm anywhere if they have enough to eat. We all know that there is a limit to their endurance, and we know, also, that the colder they are the more they consume. So it is a good plan to shelter them as much as possible in out-of-door wintering.

The space behind the dummy, when the colony is reduced in number of combs, may be used for feeding. Sections partly emptied or a saucer full of feed, or any kind of feeder may be put down behind the dummy in easy reach of the bees. They soon find it, and if the entrance is reduced so as to leave only the opposite side open, there is no danger of robbers.

We make our dummies of ⅞ lumber. We find that they are stronger than thin ones, and there is but little expense to them, as they are made of refuse or knotty lumber, and are cleated on the ends to prevent splitting. We leave a full-frame space for the dummy, and this gives us a good, big space when it is removed.

In another article or two, I will describe our method of producing extracted honey. Hamilton, Ill.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Good Advice for Beginners

Writing to beginners in Farmers' Advocate, E. G. H. has the following good advice :

The first hives should be bought from a regular manufacturer of bee-supplies, and for a beginner it might be advisable to have one of them made up at the factory, so he can see just exactly how the pieces should go together. After he learns how to handle the hives and frames, and realizes the importance of absolute accuracy and uniformity, he may make the hives himself, if he is a fairly handy man with a saw and plane.

The Langstroth hive is generally recognized as the standard, and is a safe hive for any beginner to adopt. There is no patent on this hive or any of its parts, so that any one is at liberty to make it if he wants to do so. Bees in this style of hive will sell from 10 to 20 percent higher than in any other size hives. E. G. H.

After so many clippings from Canadian papers I have no doubt our readers in the United States will be glad to see something from their own press. We have the following from the Detroit Free Press :

BEES GATHER HONEY IN WINTER.

People who visited St. John's cemetery, Sandwich, Friday, tell of a strange sight which they viewed at a newly-made grave. An abundance of cut flowers were laid on the grave, and within a few minutes the blossoms were almost covered with honey-bees.

The bees were as active as in July or August, and hummed about the blossoms while sucking out the honey in as business-like manner as they do when flying around rose blossoms in gardens in the summer-time.

When the bees secured their fill of the sweet nectar from the plants they flew away to the hive, and were coming and going until the sun began to sink in the west. The bees deserted the flowers when the air became chilly, but yesterday they returned to the attack, and their hum could be heard through the cemetery until the rain started in the afternoon.

Those who witnessed it are unable to understand the phenomenon unless it be that the warm weather has caused the bees to awake from their winter's nap, and they think that the spring has come.

At last the question, "Do Bees Hibernate?" has been solved. The Free Press reporter has demonstrated that it is possible for bees to "awake from their winter's nap!" But what we would like to know is where to secure such cut flowers. Would be glad to set a vase of them in front of each hive in the spring to make sure of a good honey crop !

Elementary Directions in Bee-Keeping

E. L. Colpitts, in the Maritime Farmer, quotes elementary directions to beginners from Leaflet 128, of the British Board of Agriculture. Besides the usual advice, he mentions among useful articles for a beginner to have "a straw skep for taking swarms," and "a super-clearer for clearing bees from section-rack or supers." I must confess my ignorance as to what a super-clearer is like. [It is what your cousins in England call our "bee-escape."—EDITOR.]

THE HIVE.

There are many patterns of hives, all made to take the one British standard frame. A simple one should be chosen possessing accuracy of workmanship and soundness of material, so as to stand exposure to weather for years. The outside of the hive should be thoroughly painted, to keep it rain and damp proof. It must be placed on its stand in a spot sheltered, if possible, from the cold north and east winds, and with a free flight for the bees in front. Space should be left behind it for easy access, so that all manipulations can be carried on from the back ; this avoids irritating the home-coming bees.

These points are so good as to bear repetition. The hives to be "simple," "standard," "accurate," "painted." The location to be "sheltered;" clear in front for flight of bees, and clear behind for work. I do not know when I have seen beginners advised to keep away from the front of the hive. They are supposed to know that—but visitors do not, and why should beginners ?

The beginner is advised to buy a first or "head" swarm, and bring it home in a box to be placed in a new hive.

By this means he will avoid all the pitfalls of disease or lack of condition, which only a practised eye can detect, but which beset the purchaser of second-hand colonies.

Directions are given for hiving the swarm then :

If the swarm has been a long time on its journey, or if the weather is bad on its arrival, the bees will be greatly benefited by being supplied with half a pint of warm, thin syrup, given through an opening in the quilt, and by means of the bottle-feeder.

CONDITIONS CONDUCIVE TO SUCCESS.

It is important that the beginner should clearly understand the principles that underlie successful bee-keeping. A colony of bees consists of a queen, a large number of worker-bees, and (during summer) a certain proportion of drones. The strength of a healthy colony depends upon the vigor and laying power of the queen, which is at her best in her second season, *i. e.*, a queen hatchd in June, 1905, will be at her best in May, 1906, and should be replaced by a young one in 1907, either by natural swarming or by re-queening. Queens may be purchased or reared by the methods described in text books. The economy of a hive depends, first, on the keeping up of the warmth of the brood-nest (by means of the heat evolved from the bodies of the clustering bees) to such a point as will stimulate the queen to lay eggs, and enable young bees to be reared ; secondly, on the feeding of the queen, the nursing of the brood, and the cleansing of the cells for the queen's use ; thirdly, on the collection of pollen, water and nectar for the brood ; lastly, on the building of storage combs and collecting nectar for the future supplies of honey.

The first three of these conditions must be fulfilled before the last can be begun ; therefore, it is only by means of a large and vigorous surplus population that a colony can gather enough stores for its future use, and provide also for the bee-keeper. The aim of the bee-keeper is to keep his colonies strong, for a weak colony is always unprofitable.

The next consideration is, that the crowded condition of the hive should be secured at the right time, *i. e.*, at the honey-flow.

Those who propose to keep a few colonies of bees only, may proceed in the manner outlined above ; any one intending to keep a large number of colonies is advised to get a season's instruction in a well-managed apiary before laying out capital in the business.

The "Wood Binder" for Bee Journals

One scarcely appreciates little conveniences before giving them an actual test. The Wood Binder is one of the handiest things I have on my table. It keeps the year's numbers of the American Bee Journal right at hand, and in order for immediate reference.

And the cost is only 20 cents !—[Send for it to the American Bee Journal office.—EDITOR]

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Order of Bees in the Cluster

Hardly any bee-keeper will think that the bees of different age will have to occupy a certain place in the hive ; nevertheless we can prove that in this respect, too, a certain order is necessary, and that it prevails in the hive. This order corresponds with the order of the brood. The youngest bees prepare the food for the queen and for the youngest larvæ, as the queen with every new brood period lays eggs near the oldest capped brood, and just in those cells from which young bees had gnawed out. She is always near these young bees, and receives the necessary chyle or blood from them. So we see the queen surrounded by young bees (as shown in the "A B C of Bee Culture" under "Queen") which feed her. But the queen does not remain there in the same place. She moves around in circles from comb to comb, and everywhere she meets young bees of just the proper age on the empty cells, which have cleared and warmed their own cradles, and so prepared for a new baby.

The young bee, which has just fed the queen, remains in the same place with the eggs and keeps them warm ; and after 3 days, when the small larvæ are out of the "egg-shell," they are fed by the same bees in the same way as a short time before the queen was fed. These larvæ grow and need more food every day ; finally the food is not digested any more, and chyme is fed. With the larvæ the young bee is growing older, too. From a chyle-producing bee it has changed to a chyme-producing one; and now, when the larvæ are old enough, the bee secretes wax and builds cappings over the cells. It becomes a building-bee now, and may find employment in building combs outside of the brood-nest, or for transporting and ripening honey until it is old enough for gathering water, pollen and nectar.

As we have seen, the young bee is held back at first to the place of its birth, till, with the larvæ, it grows older; and if these larvæ do not need it any more it strives to come to the surface of the cluster, at first working as comb-builder, etc. In about 3 or 4 weeks it dies, worn out by hard work, when another bee is found on the alighting-board ready to take its place. As the material for nourishment flows from the outside to the center, going from one bee's body to another till it is consumed by the queen or by the larvæ, so the young bees, not necessary in the brood-nest, are striving to get to the surface or to the outside to find other employment, generation after generation, till they find an honorable death in the fields.

CHYLE AND IMPULSES.

We know that the different organs of the bee will take different parts from the blood for nourishment. In this way all the organs get their proper nourishment, and the blood is used up. The products of this process are either breathed out by the tracheæ or removed from the blood by the malpighian vessels.

A certain organ may especially need fat; then the remaining blood will be richer in albumen and sugar-like substances; if not, other organs will use up this surplus. In this way the composition of the blood of the bee may vary according to circumstances.

As long as the bees are close together in the winter cluster, and feed themselves on the winter stores of honey, and probably very little pollen, all the blood produced is used up to preserve the life of the colony and to produce the necessary heat.

As soon as a great activity takes place, probably caused by the first flight in spring, induced by a warm day (1), every member of the colony will produce more chyle or blood than is necessary for the preservation of its own body, and hereby the progressing impulses are incited. The young bees especially are the producers of heat, and for this purpose fat and sugar in the blood are used up in larger quantities than albumen; consequently the blood will get richer in albumen. According to the laws of diffusion, the blood will now take more sugar and fat from the chyle in the stomach than albumen, because the tendency is to equalize the two fluids. So the chyle, too, will get richer in albumen, and this rich chyle, if fed to the queen, will excite the ovaries, and egg-laying will commence soon afterward. In this way the breeding impulse is aroused in the whole colony. The queen needs more nitrogenous food to produce the necessary chyle; the few young bees will have plenty of consumers for the produced chyle, and the queen will lay a small patch of eggs only in the first brood-period, and all the produced chyle is consumed by the larvæ and the queen.

As soon as young bees gnaw out of the cells they will produce chyle, too, if pollen is present or gathered by the field-bees; but a single bee can feed perhaps 5 or 10 larvæ, and may be more. The first 3 weeks we may have 100 young or nurse-bees; and then it will be easy for the queen to lay 1000 eggs during these 3 weeks, which will be afterward, as larvæ, consumers of the chyle produced by the 100 young nurse-bees. Inside of the next 3 weeks we shall have 1000 nurse-bees, and they need 10,000 eggs. In the third brood-period 100,000 eggs or larvæ would be necessary; and as we know that no queen is able to lay so many eggs, necessarily an increase of the blood takes place. The young bees get surcharged with blood; and we can observe this, as we see their abdomen generally more distended than with field-bees of the same colony.

The next result of this condition is that the wax-glands are excited. It is proven by Schoenfeld that much blood is necessary for the secretion of wax, and this is one of the reasons why bees can not and do not always build combs. As for wax-secretion and comb-building, if fat and sugar are used, albumen will get to be still more diffused through the blood, and hereby another impulse is aroused—the drone impulse. We can always observe whether comb-building is going on in connection with a surplus of albumen, for then drone-combs will be built by the colony. This is the explanation why swarms will build worker-combs as long as the queen can lay a sufficient number of eggs for the young bees accompanying the swarm; and why the same swarm commences to build drone-cells where the queen can not lay enough eggs, or when young queens are gnawing out of the cells. It is the explanation why small colonies or nuclei generally build worker-combs. They do not have enough young bees so that a surplus of albumen can be present in the blood.

As the chyle has always the same composition as the blood, or nearly so, the queen, too, receives a chyle very rich in albumen, and so the same impulse is aroused in her body, and she will lay drone-eggs in the drone-cells, which, if other conditions prevailed, she would neglect entirely (2).

The young drone-larvæ need a food very rich in albumen, and so the increase of blood is diminished for some time by comb-building and by rearing drones.

Further, we know that a drone needs 24 days for development, and in the last 2 weeks the cell is capped and will need no food at all. Meantime the number of young bees has increased every day, and the increase of blood will be greater and stronger.

As in early spring, the surplus of albumen was transferred to the ovaries, so this surplus causes at that time, and at that state of development, a desire for more ovaries, as the old queen and the larvæ are yet unable to consume all the chyle produced by the many young nurse-bees. Quite a number of queen-cells are built, and the young larvæ in them are good customers for the albuminous chyle. So we see the abundance of food causes an ever increasing number of food-producers. The contradiction between the multiplied supply of nourishment and the limit of egg-laying power of the queen is finally solved by the swarming act.

By this theory we can explain many mysteries in bees. This theory explains why and how swarming can be prevented, if we in some way avoid a surplus of albumen, or, as we said, the increase of the blood. The more a theory can explain the facts we have observed, the greater will be the probability of its correctness. This theory does more: By reasoning from it we can incite and retain certain impulses to our liking by certain manipulations; and if we make use of them correctly we shall succeed. This fact makes it nearly certain that the theory is correct.

Many problems remain to be solved as yet; and in some points later investigations and closer observations may correct some parts of the theory; but that it is correct in the main points I am fully convinced, if I consider in what an easy way it gives us an insight into the very life of the honey-bee to such an extent as we never had before.

Cibolo, Tex. L. STACHELHAUSEN.

(1.) Other circumstances, too, may cause a larger consumption; for instance, if the colony is much disturbed or exposed to cold. Under such circumstances I found in strong colonies large patches of brood, even in January, in a cold climate—Germany.

(2.) This will need a correction or completion, as it does not explain why a queen will lay a few eggs in drone-cells, and right from them go over to the next worker-cell and lay an impregnated egg in it. It is not probable that the impulses change so quickly. Possibly the size of the cell has something to do, after all, in fertilizing or not fertilizing the egg.

Our ✣ Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

Weak and Queenless Colonies in Spring

By this time it ought to be an easy thing to tell which colonies have normal queens and which have not. If combs of good worker-brood are not present a colony is doomed. To be sure, a queen might be sent for and given to it, but that is not what the average sister will do, especially if she is a beginner. The first thing she most likely will think of doing is to give it some brood to let it rear a queen of its own, and it will probably take her years to learn that that is just the thing she ought not to do. It is a bad thing to do for more than one reason.

One thing that is enough to condemn it, if there were nothing else, is that the queen reared in such a case will be very poor; generally so poor that she is not only worthless, but worse than worthless, because she will keep a lot of bees dancing attendance upon her only to fail in the end.

Another thing just about as bad is the real damage to the colony from which the brood is taken. To this the reply is likely to be, "Taking one frame of brood from a colony is not going to hurt it very much." Very likely, too, this may be said by some one of many years' experience. Unless one has given especial attention to the matter one is not likely to realize the harm. Early in the season, while more or less cool weather prevails, a weakling, with only bees enough to cover 2 or 3 frames of brood, will be at a stand-still until warmer weather comes, if, indeed, it does not grow weaker. On the other hand, a colony covering 4 or more frames of brood will walk right along. So the frame of brood given to the queenless colony must be renewed from time to time, and will not be increasing; whereas, if left in the stronger colony, it will be doubling up all the while.

The right thing, then, is to break up all colonies that do not have good laying queens early in the season. That will make less hives containing bees, but there will be more bees, and at the end of the season more colonies.

Honey Good for a Discolored Neck

A yellow, discolored neck is anything but adorable, particularly when a woman wishes to appear in a decollete frock. A simple home-made remedy is made thus: Take 1 ounce of honey, 1 teaspoonful of lemon-juice, 6 drops of oil of bitter almonds, the whites of 2 eggs, and enough fine oatmeal to make a smooth paste. Apply this at night, covering with a bit of old, thin, soft linen. Three or four applications will bleach the surface to a beautiful satin whiteness.—Chicago Record-Herald.

Planting Flowers for Beauty and the Bees

Planting flowers for bees is not likely to amount to very much, unless planted by the acre. Yet when the sisters are planning their posy beds they may as well give some little precedence to the flowers that yield nectar. It is at least a pleasure to see the busy little visitors working on them. Mignonette is a prime favorite. A good-sized bed of crimson clover is a beautiful sight. The crocus is one of the earliest favorites. Phacelia is considered a great honey-plant in some localities, and its modest purple blossoms make it worthy a place in the flower-bed.

Green Hellebore

What is the common and botanical name of the enclosed plant? The root is fibrous. The bees were thick about it when first in bloom, but now they seem to have deserted it. No one here seems to be acquainted with the plant, and we are curious to know its name. It has been in bloom for several weeks, and the same flowers continue for a long time. It is a perennial plant, and hardy.

Centerville, Ind., April 25. KATE V. AUSTIN.

[The plant is the Green Hellebore—*Helleborus viridis*—which was introduced from Europe some years ago and is gradually spreading westward. The juice of the plant is somewhat poisonous, but the bees seem to get something good from the blossoms.—C. L. WALTON.]

Br. Colomban's Honey-Cakes

INGREDIENTS.—Three pounds of honey, 3 pounds of flour, 1 ounce of *powdered* ammonia, a small teaspoonful of ground cinnamon, ½ teaspoonful of ground cloves, 6 ounces of orange-peel cut very small, and 4 ounces of sweet almonds cut small.

DIRECTIONS.—Pour the honey in a copper or enameled pan, and set on a stove or quick fire. When it boils, draw it aside and remove the scum (as honey boils up very quickly, great care must be taken not to let it boil over). Then pour the honey into the vessel in which the paste is to be made; leave it to cool, then add flour and other ingredients except the ammonia, which latter must not be added until the flour and honey have been mixed up, and the paste has become quite cold.

In preparing for use, place the ammonia in a cup, pour a few drops of cold water and stir it well, so as to form a thick paste, then mix it up with the rest. Then take a piece of the paste, roll it out into a cake not over ¼-inch thick, and cut up into convenient sizes as desired. This done, put the cakes on a flat tin (which must be greased beforehand) and bake from 12 to 15 minutes in a hot oven.—British Bee Journal.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Preparing Watering Places for Bees

A water pan under shelter, and covered with floating cork-chips, and kept warm by a lamp underneath. Surely, that ought to be satisfactory—and there's no denying that the end in view is important, quite important enough to justify the time and cash laid out. The rock on which you will split (if you do split) may, perchance, be a catechism gourd that may spring up over your Jonah booth. How many bees am I getting to come here? Lots of them. How many still go elsewhere? Don't know—I'll try to find out. Yes, and when you find out that three-quarters of them still persist in going elsewhere, in spite of everything you can think of to draw them, will you not let a natural indignation have play, and throw the whole thing overboard? Otherwise you may incline to keep adding inducements from time to time. A little salt helps. Hard to get the proper amount just right. Too much drives them away instead of attracting them. Willow twigs in the water have a recommendation 2000 years old, and theoretically ought to be beneficial.

Bees feel severely the battle all living creatures have to fight—the life or death struggle with septic microbes. Need all the antiseptic they can secrete, and all they can collect also. The water they *choose* very generally has second-hand antiseptics in it, secreted by the digestive organs of cow or pig, and cast out with the excrement after serving its original purpose. Whether we can follow this hint in preparing water to tempt them I hardly know. Looks possible. Imaginable that water kept warm day after day *might* breed microbes at such a rate as to be unfit for the purpose. As to the willows, they contain the original of salicine, which is related to quinine, having similar properties in a less degree—power to repress microbes being one of them, I think. Strikes me that solid bunches of willows the size of one's wrist might be cut short off into very short lengths; then keep several sections in the watering pan standing on end. Page 291.

That Hive of Bees Struck by Lightning

The "brood of chickens struck with lightning" serves a more or less useful turn as popular proverb. Hardly think that "hive of bees struck with lightning" would be any improvement. Interesting, however, to hear that a stroke heavy enough to produce the wreck shown on page 285 left enough of the bees alive that the colony went on. Say, somebody get up a dynamo that will just kill *Bacillus alvei* and not quite kill the bees.

Selling Honey

Thanks to R. C. Aikin for his reasonings in letting the same common-sense, which is best in selling fruits and vegetables, have free course in selling honey also. But I eat a grain of salt with this claim that *most* customers will be pleased with the taste of honey that has been through the solar extractor. Say, rather, that *some* will. And even that "some," I guess we would better educate their blunt tastes than take advantage of them. Page 293.

Marketing Comb Honey

And now Mr. Greiner advises us to wrap our cases of honey in nice-looking paper! Might we not stick on a few chrysanthemums here and there outside the paper? and some little sponges wet in perfume? But one of the statements he makes I haven't the heart to poke small fun at—too sad, and too hopeless of adequate remedy. "Not one man in 50 knows how to handle honey properly." What are we going to do about it? Just hand our honey over to the market, and the market will hand it over to them—and let them cellar it, and freeze it, and bang it, and ram their fingers through it, and pile it corner to face in a round basket—and all the other capers at pleasure. Page 294.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Buckwheat Honey in Brood-Chamber Darkening Surplus Honey

What would you do with buckwheat honey that has been in the hives all winter and up till the time white clover blooms? I had some in the hives last year and the bees carried it up to the top story and it darkened a lot of my surplus honey. Ontario.

Answer.—The circumstances must have been exceptional that would have allowed buckwheat honey to remain in the hive over winter and then to be carried up into the surplus apartment. It could only be where the combs were so crowded with honey that not enough was used up before harvest to allow the queen room to lay. In that case I would take out a frame or two of the heaviest, and give it to the lighter colonies. If all were too heavy, I'd extract some of the heaviest combs.

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Albino, Banat, and Cyprian Bees

Will you kindly publish all you know about the Albino and Banat bees, good qualities and bad, markings, color, etc.? I see them advertised, and I have heard of them. Are they a new bee in this country? I would like to know what you think of the Cyprians, as I have one queen this spring, and if good I will breed from her. Wisconsin.

Answer.—Albino people are those who have very light hair, skin and eyes, the coloring matter being lacking, and it is generally the case that an Albino, whether man, animal or bee is more or less lacking in physical vigor. That does not make it impossible, however, that there might be exceptions to the general rule.

Banat bees I know knothing about. I don't suppose it is a new variety introduced, but merely a name that has been given, for any one can call his bees by almost any name he pleases. I could call my bees "Miller" bees, but that wouldn't make them a new variety.

Cyprian bees are favored by some for crossing, but not many seem to care for them in their purity. They have a reputation for vicious temper, for starting laying workers on very short notice, and for the very large number of queen-cells they start when queenless or preparing to swarm.

◆

Getting a Honey Crop and Then Transferring the Bees

Can I safely run my bees for honey till the middle of July and then put them into new hives with new foundation? Would that give them plenty of time to build up for winter?

Don't say, "Get a book," for I can't just now; but I shall send to you for one later on. Maine.

Answer.—No, I'll not say get a book in order to find an answer to that question, for I doubt that you would find a direct answer to it in any book, and your question is one that fairly belongs in this department.

If you put a colony on foundation the middle of July, and leave it entirely to itself, and if there is nothing yielding honey after that time, you may feel pretty sure there will be nothing but dead bees in the hive the following spring. But you can *make* it a success by feeding to make up the deficiency. Feed enough every other day to keep up brood-rearing, and enough in September for winter.

No, don't send to me for a book. I don't have books to sell. The reason I constantly urge the buying of a bee-book is not to sell one, but because I know the bee-keeper who has none is standing in his own light. I wouldn't be a good friend of yours if I didn't insist on it.

◆

Stopping Swarming—Finding Queens—Best Book On Bees—Scented Water to Throw on Bees

1. What do you think is the best method to use to stop bees in the act of swarming?

2. I would like to clip the wings of the queens, but don't know how to go at it. What is the best way to find a queen?

3. As there are so many books written on bees, I would like to know which one you think is best.

4. I have heard that bee-keepers have some stuff they put in the water they throw at bees, which has a peculiar smell that makes the bees stop. If this is so, what is the name of it? Iowa.

Answers.—1. When a colony has really started to swarm, it isn't an easy thing to stop the bees. Perhaps the best is to smoke vigorously or to shower heavily with water. But that will not hinder their trying it another time.

2. In this locality we generally look over the frames, one after another, till we find the queen. Care should be taken not to give enough smoke to start the bees running. If they begin once running, the best thing is to close the hive and let them quiet down, not opening the hive until after an hour or more, or trying it the next day. Another way is to lift all the frames out of the hive carefully, putting them in another hive, then look carefully to see that the queen is not left in some corner of the hive; then having a queen-excluder at the entrance of the old hive shake or brush from one of the frames all the bees in front of the entrance, then put the frame in the hive, and proceed in the same way with all the frames. The queen, not being able to get through the excluder, will be found at the entrance.

3. That's rather an unfair question to answer, and a difficult one if not unfair, for any of the leading bee-books are good. If you are going to do much with bees, it will pay you well to get any one of them, and then get others afterward.

4. I don't understand to what you refer. Possibly to throwing water on bees to stop their robbing. In that case, the water will be more effective if carbolic acid is put in it.

◆

Changing Bees from Old to New Hives

I sent for some improved Langstroth-Simplicity hives, and have some bees that I would like to put into the new hives. How would you put them in? Illinois.

Answer.—I think I would wait till they swarm, then hive the swarms in the new hive, then 21 days later cut up the box-hives, and if you think best cut out the best combs and fasten them in frames to put in the new hives. It may make less bees in the way if you drum out the bees before cutting up the hives and cutting out the combs.

◆

Using Wood Splints Instead of Wire in Combs

1. Can brood-combs be drawn out during a heavy honey-flow and not sag when using splints on light-brood foundation?

2. What do you think of using splints on wired foundation for extracting and brood combs? Or, do you recommend only medium brood when using splints?

3. I would like to try splints, but I am at a loss where to get some. Do you have them made to order, or do you make them yourself? What kind of lumber? Would Louisiana cypress do?

I guess you will smile a little at my ignorance. Texas.

Answers.—1. Having never tried it I can not say positively. But I should hardly expect any sagging with light brood foundation, and if there should be any sagging with splints the usual distance apart (about 3½ inches), one or two additional splints in a frame ought to make all right.

2. For extracting there would be a little advantage so long as the combs were new, in having both splints and wires; whether the advantage would be sufficient to pay is another question. For brood-frames the addition of wires could hardly be any better than the splints alone. But if I had the wires in, I should still think it would pay to add the splints.

3. My splints have been made to order, but they can be made at slight expense at any manufactory of bee-supplies or berry boxes where they have machinery for slicing wood. They are made of basswood, but I suppose almost any kind of wood would answer. A wood somewhat tough is probably better than one very brittle. I am not acquainted with Louisiana cypress, but should have little fear as to using it.

Yes, I might smile at your ignorance, only I have a good memory, and have a very vivid recollection of the time when I was more ignorant than you are. And if you'll promise not to tell, I'll just whisper in your year that I have on hand at the present moment a big stock of ignorance about bees.

◆

Raising the Hive for More Ventilation

I see on page 370, E. W. Deifendorf advocates the putting of holes or an entrance above the brood-chamber and between the supers. Also T. L. Shawler, on page 365, recommends raising the hive at the bottom when the weather gets warm, to prevent swarming. I can readily see the need of plenty of air and ventilation in hot weather, but would not these many entrances promote robbing? Which would be the better, to raise the hive from the bottom or to raise the super, leaving ¼ inch between the hive and super? Kansas.

Answer.—Contrary to what you might expect, there is little danger of robbing being started when large openings are given in harvest time. I've tried it very thoroughly, and don't think I ever had a case of robbing from that cause. Better raise the hive if working for comb honey, although I have practised also shoving the super forward. For extracted, do both.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Reports and Experiences

Last Season Not a Good One.

I wintered 5 colonies of bees outdoors and 32 in the cellar. The outdoor bees did better than those in the cellar. The past mild winter made the cellar too damp. I lost 2 colonies in the cellar on account of being queenless, so I had to double them up. I have 35 colonies left in good condition.

The year 1905 was not a good one for honey here, although I had 2,006 pounds of honey from 20 colonies, spring count. I would have had more, but ran 6 colonies for comb honey, which gave me only 87 pounds of capped sections. The fields out here were covered with white clover last summer, and there will be a great deal of it the coming summer, as it looks well now.

I have no trouble to sell my honey at 24 cents a quart and 13 cents a pint. That is the way I put it on the market each year, with a nice label.

Herman Heurkens.

Green Bay, Wis., April 9.

Very Early Swarm—Good Prospects.

Did you ever see a swarm of bees in April? I saw one last Friday (April 13), when a large swarm passed over my head near where I was at work in the apiary. They were, no doubt, wild bees, from some tree in the nearby forest, and were on the lookout for a suitable hollow tree as a home. This is something unusual, and my theory of it is that we have had such a mild winter the bees have reared brood and young bees every month. Therefore, when the first honey and pollen came in from the soft maple, they swarmed. My own bees are very strong for the time of year. The young bees are out playing every day, and I think we are going to have an old-fashioned honey crop, like we had in the '80s. I notice there is an abundance of young clover, and if we have a wet spring it will surely yield a big crop of honey.

S. G. Kilgore.

London, Ohio, April 17.

Apiculture in California.

I think it is generally conceded that California is the largest honey-producing State in the Union. I am not far wrong in saying that 9-10 of this honey is extracted. Possibly the short season we have had of late is the cause of so little comb honey produced. In this locality one should use nothing less than a 10-frame Langstroth hive. The entrance in summer should be 1 inch deep clear across the end of the hive. For ventilation I prefer this plan. On hot days raise the lid or cover a little by placing a thin strip of wood about $\frac{1}{8}$-inch thick between the cover and the hive, taking it out at night, as the nights are rather cool in nearly all parts of California. This plan, I think, gives better results in this locality than having ventilators attached permanently to the hives.

Last year was a very good one for honey, and the outlook at the present time for a good season is better than it has been for years. Rains have been very plentiful all spring, and at the present time wild flowers of all descriptions cover the hills, and it will be only a few days until black sage will be blooming.

Last year the early honey-flow was stopped at its height by strong, hot winds cooking the flowers, and drying the nectar. These winds were largely caused by oil-wells a few miles north of here catching fire.

M. D. Whitcher.

Los Olivos, Calif., April 19.

Temperature of a Bee-Cluster.

That article of Mr. Doolittle which appeared in the American Bee Journal two or three weeks ago was very interesting, and shows a great deal of painstaking to arrive at the truth. It is certainly an eye-opener to little fellows like me to know that bees will hold the temperature in the cluster to 63 and 64 degrees when the mercury falls to 32 degrees below zero outside. One of his observations, however, seemed to puzzle him, and he seemed to be at a loss for an explanation as to why the bees at the bottom of the cluster seemed to be livelier and warmer than those at the top. Tell Mr. Doolittle not to be puzzled at that. I have frequently observed that phenomenon. The explanation is easy, and is as follows:

It is a well-known fact that air, when warmed, ascends. Consequently the strata immediately over the cluster is constantly leaving the bees to the higher parts of the hive, and a good deal of it percolating through to the outside, while the strata immediately under the cluster in its effort to ascend is arrested by the bees themselves and is constantly hugging them with the warmth they have generated. This explains why top packing is the all-important feature of winter protection.

W. T. Cary.

Wakenda, Mo., April 10.

Colonies Weak—Feeding.

The last of March I put the bees out of the cave on the summer stands. I found 7 dead colonies out of 25 put away the latter part of last November, and found some colonies rather light. I put those by themselves, and in January, 1906, I put frames of honey over the brood-nest, which brought them through all right, but I have to feed now, and will have to do so until fruit-bloom comes. Those left are doing very well, and there is brood in all colonies.

Since putting them out the weather has been pretty favorable for bees to have flights. They are now bringing in pollen. Last season bees had only 3 weeks to gather honey in—the last 2 weeks in July and the first week in August—from the white clover and basswood. Bees did well those three weeks. We had no fall bloom.

I took the supers off the first of September, overhauled the brood-chambers, and fed those that needed feeding enough to carry them through until spring, but up to the time I "caved" them the weather was so nice and warm that they were out almost every day. As there was no honey to get, they consumed the honey out of the brood-nest, which cut them short of winter stores, and this was also the report of bee-men around here last fall.

Walter Irvine, Sr.

Clayworks, Iowa, April 11.

Wintered Fairly Well.

My bees were taken out of the cellar and placed on the summer stands April 7. On taking an inventory I find them as follows: 80 strong colonies, 40 medium, 10 weak, and 3 dead. I consider they came through the winter in quite good condition.

Bees are now more energetic than they usually are in the spring. This is noticed by the way they tumble out and into their hives—just as if they were in a race to see which one could carry in the most pollen and honey. This, with their loud hum, is an indication that they came through the winter in a healthy condition.

I am now making preparations for out-apiaries. I will make 300 10-frame hives this fall, and self-spacing frames for all of them; I will run the out-apiaries entirely for extracted honey.

If we have a good year my plans will hold good, and I will be prepared to build a large bee-cellar another year, with a "cage" over it! Then I will open the door, for a "bird" to fly in.

Frank Stoflet.

Auburndale, Wis., April 16.

Not a Good Bee-Country.

I have been keeping bees for the last 50 years and have always taken a deep interest in them and have usually had fair success, although not always. I have taken the American Bee Journal a good many years, how long I do not know, but ever since I knew there was such a journal printed, and to its teachings I owe the greater part of my success.

This is not a good bee-country, but it is getting better every year. I came here in 1868, and at that time the people thought bees could not live here, but I was bound to try, and for the first 10 years they gave me no surplus, except one year, and then only very little. However, they do quite well some years, as I think the largest yield I ever had was 72 sections full—I called it 72 pounds.

I have Italian bees, and try to keep them pure and strong, but I never have yet seen more than 5 frames full of brood at one time in any one hive. I use the 8-frame hive. I wonder if I always have poor queens. I have

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	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
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Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8 00	$ .95	$ 5.00	8.50
Select Untested	1.00	5 00	9.00	.75	4.25	8 00	1.10	5.50	9.50	1.20	6.00	10 00
Tested	1.50	8 00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested ..	2.00	10 00	18 00	1.50	8.00	15.00	2.10	10.50	18 50	2.20	11.00	19.00

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" Carniolan "	3.10
" Caucasian "	3.25
1-frame Nucleus (no queen)	$1.50
2-frame " "	2 00
3-frame " "	2.50
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1 full colony without queen in 8-frame dovetailed hive	6.00

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bought quite a number, and when I read of a queen filling 2 hives full of brood, I wondered why mine can't fill one brood-nest. H. D. Black.
Fairbury, Nebr., April 13.

Putting a Weak Colony Over a Strong One.

My bees came through the winter alive, all but one nucleus. I put 9 colonies into the cellar and took out 8 on April 10. I found 4 quite weak, so I thought I would try E. W. Alexander's plan of putting them over a strong colony, with an excluder between the two brood-chambers, only I didn't wait until they had uncapped brood, as he advises doing, but I put them over a strong colony as soon as I took them out of the cellar, and saw that they had queens, but it may not work. However, I don't see why they won't do as well as if they had uncapped brood, as the queens had started to lay. There were a very few eggs in the brood-combs. I will write later and tell how they came through.

My bees are bringing in pollen in fine shape to-day. I am farther north than most of the bee-keepers, but bees do pretty well here; but our springs are later here in northern Wisconsin.
Irma, Wis., April 16. V. Goodnow.

CONVENTION NOTICE.

Western Illinois—The semi-annual meeting of the Western Illinois Bee-Keepers' Association will be held in the County Court Room, in Galesburg, on Wednesday, May 16, commencing at 9 a.m. and lasting all day. Messrs. C. P. Dadant and J. Q. Smith have promised to be present and contribute to the success of the meeting. Our meetings have been good, but we hope to make this one better. Galesburg has good train-service, and all bee-keepers in this part of the State should not fail to come. Come, and bring your wives with you. E. D. WOODS, Sec.
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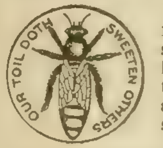
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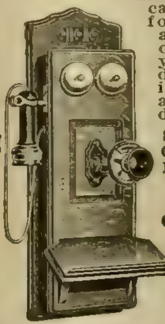

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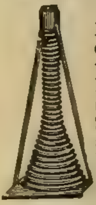

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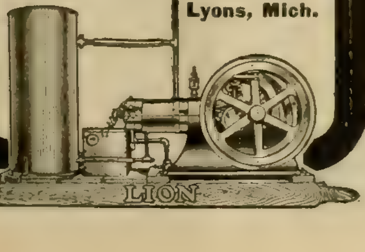

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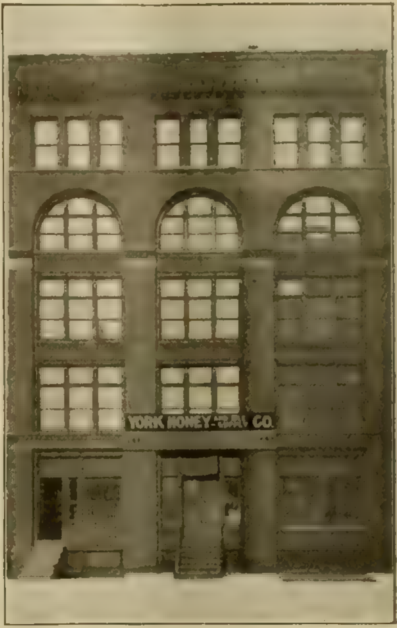

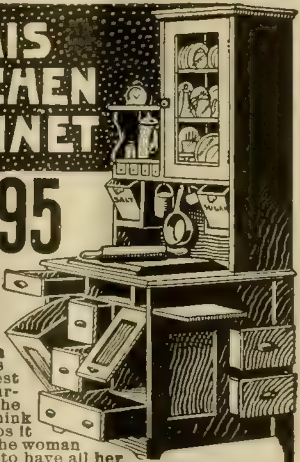

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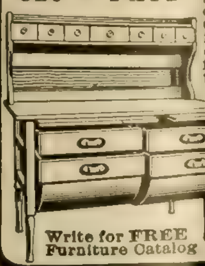

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Send for same.

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Honey and Beeswax

CHICAGO, April 20.—There is very little comb honey on the market, and as usual at this season of the year the demand is very limited. There is no change in the prices obtainable from recent quotations. Choice white comb will bring 15c when wanted; other grades are of uncertain value, ranging from 10@14c per pound. Choice white extracted, 6½@7c; amber grades, 5½@6½c. Beeswax, 30c per pound.
R. A. BURNETT & Co.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
GRIGGS BROS.

INDIANAPOLIS, March 24—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, April 23.—The season is now so far advanced that there is very little call for comb honey; not enough sales to fix a price. Some little odd lots, parties are selling at the best offers they can get. Extracted honey, for fancy grades, is also low. Medium and low grades are in abundance. We quote: Fancy white, 7@8c; amber, 6@7c; dark, 5@6c.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, March 19.—Demand for comb honey is fair, especially for the better grades, and fancy white is selling at from 14@15c; No. 1, 13c; light amber, 11@12c; no more demand for dark comb honey. Extracted is in good demand, mostly California, at unchanged prices. Beeswax is firm at from 29@31c, according to quality.
HILDRETH & SEGELKEN.

CINCINNATI, April 4—There is no material change in the honey market since our last report. The demand does not come up to expectations, which, in all probability, is due to the inclement weather of the past month. We continue to quote amber in barrels at 5¼@6½c. Fancy white in crates of two 60-lb. cans at 6½@8½c. Choice yellow beeswax 30c. delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, May 5.—Our market is about cleaned up on old comb honey. What there is now left is selling at $3.25 per case for fancy white. It looks as if there would be a good demand for new honey just as soon as it comes to market. There will be very little comb honey left over this season in this city. Extracted is moving rather slowly at 5½@6c. Beeswax, 25c per pound.
C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fency white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
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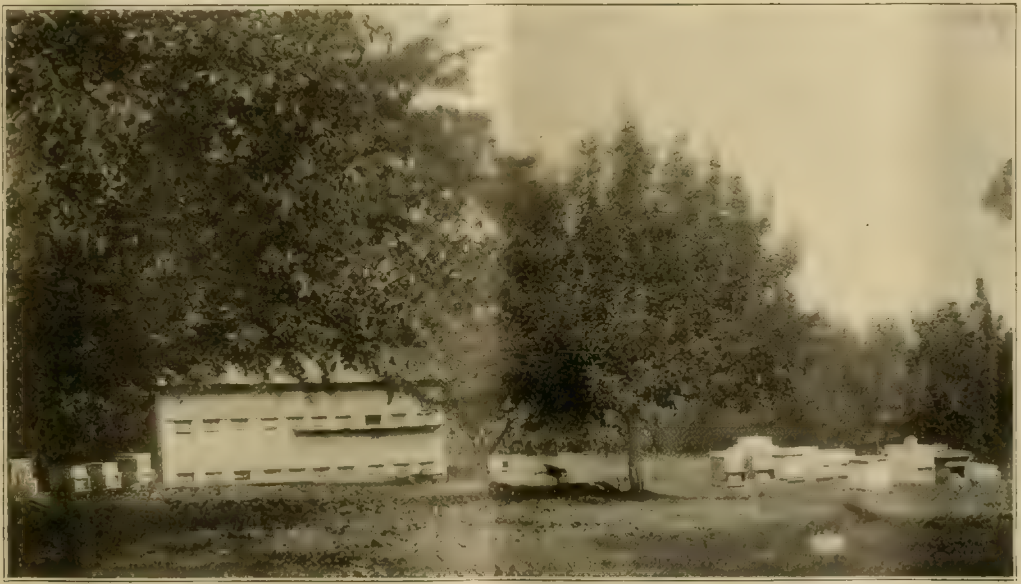

House-Apiary and Apiary of Frank Kittinger, of Caledonia, Wis.—(See page 422.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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Contents of this Number

Illustrations—

House-Apiary and Apiary of Frank Kittinger....1st Page
Latham, Allen....1st Page
Marsh, Rev. D. D....1st Page
Smith, J. Arthur....1st Page

Editorial Notes and Comments—

Definition of Honey.... 421
Drones Fly Farther Than Workers.... 421
Putting Weak Colonies Over Strong Ones.... 421
Spreading the Brood.... 421
Temperature of the Brood-Nest.... 421

Miscellaneous News Items—

Apiaries of Frank Kittinger.... 422
Dzierzon (Dr.) Failing.... 422
Officers of the Connecticut Association—Messrs. Latham, Marsh and Smith.... 422
Root, Huber H.... 422

Contributed Special Articles—

Annual Renewing of Queens.... 423
Changing Queens Yearly.... 424
Dadant Methods of Honey-Production (No. 11) 423
Facing and Shading Hives.... 423
Localities that Differ.... 424
Producing Extracted Honey.... 424
Shade for Hives.... 423

Convention Proceedings—

Connecticut Convention.... 426
Extracted Honey and Its Quality.... 424
Worcester Co., Mass., Convention.... 425

Southern Beedom—

Caucasian Bees.... 426
Checking Early Brood-Rearing.... 426
How to Put Supers on Hives.... 426
Moving an Apiary a Short Distance.... 427
Not Breeding from Largest Producing Colonies 427
Putting Comb Foundation in Frames in Winter 427

Our Sister Bee-Keepers—

Don't Meddle With the Bees Unnecessarily.... 427
Michigan Sister's Experience With Bees.... 427
Moving Bees Nights and Letting Them Work in the Daytime.... 427
Troubles With Bruin in the Apiary.... 427

Mr. Hasty's Afterthoughts—

Is Cuban Bee-Keeping So Profitable?.... 428
Less Honey and More Price.... 428
Prof. Cook's Insect-Tester.... 428
Sunflowers for Hive-Shade.... 428
Testing Beeswax for Adulteration.... 428

Canadian Beedom—

Natural Disinfectants in Colonies of Bees.... 428
Ontario Foul Brood Act and Inspectors.... 428
Sorting and Overhauling Combs.... 429
Working Intelligently With Bees.... 428

Dr. Miller's Question-Box—

Clipping Queens.... 429
Dempsey Super.... 430
Dividing Colonies for Increase.... 430
Fence Separators.... 429
Prevention of Swarming.... 429
States Having No Foul Brood.... 429
T-Supers and Quilts.... 429
Weak Colony Over a Strong One.... 429

Reports and Experiences—

Keeping Mice and Ants Out of Hives.... 430

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Swarming Done Away With

In addition to continuing the several interesting articles by Alexander, and other noted contributors, which are running in GLEANINGS IN BEE CULTURE, the publishers announce as a special feature for the remaining issues of the year, a series of articles on the CONTROL OF SWARMING FOR COMB-HONEY PRODUCTION. These by bee-keepers who have experimented to the point where experimenting is done, and the crown of success has been awarded.

If you have not seen the first installment of this series, send in your name for a three-number trial subscription, which will be given free of charge. The April 15th, May 1st, and May 15th numbers will be mailed to you, and by June you will undoubtedly be so interested you will want to take a six months' subscription at least. The special price of which will be 25 cents.

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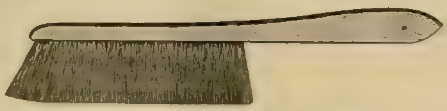

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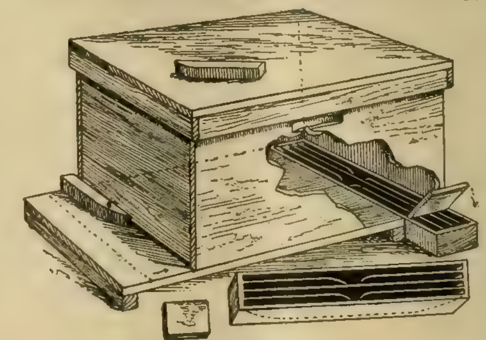

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GEORGE W. YORK, Editor CHICAGO, ILL., MAY 17, 1906 Vol. XLVI—No. 20

Editorial Notes and Comments

OUR TOIL DOTH SWEETEN OTHERS

Definition of Honey

Germans, as well as Americans, are struggling with the question as to a proper definition of honey. Praktischer Wegweiser quotes Dr. Kautzler as saying:

> "The public understands by the term pure bees' honey only that honey obtained by the bees from the flowers of plants."

But the well-recognized authority, Dr. Haenle, is quoted with approbation as saying:

> "By pure honey is understood the sweet juices that bees have gathered from plants in forest and plain, and have elaborated in their hives into honey."

The latter is, without doubt, a good definition, while practical bee-keepers can not fail to object to the former.

Putting Weak Colonies Over Strong Ones

Reports are contradictory of the plan of putting a weak colony over a strong one in spring. Some report it as a great success, the weak colony becoming in time equal to the stronger one, with no apparent damage to the stronger one. Others report loss of queens.

It is quite possible that a slight difference in execution of the plan may make all the difference between success and failure, and it is to be desired that those who have given the plan further trial—and the probability is that it has been practised much more extensively this year than last—would give any information they may have obtained as to causes of failure. Even if nothing more can be done, let there be reports giving information as to just what success or failure occurred.

Temperature of the Brood-Nest

Mr. Editor:—I have read with very great interest the article on hive temperature, page 363, and although much of it has been given before by the same writer, there are some things that bear repetition. Mr. Doolittle has done a real service in enabling us to say, "The temperature of the brood-nest is pretty nearly a constant quantity, ranging from 92 to 98 degrees." I wish he might have gone still farther, and told us at what temperature the crust of bees is kept. I think European authorities have given it at 50 degrees.

With thanks for emendations to my answers from one so competent on these points, I may be permitted to ask, not with any spirit of captiousness, but with a sincere desire to know the truth, whether the testimony given is sufficient to warrant his apparent conclusion that the crust of bees is almost a perfect non-conductor of heat. The important bearing this may have upon practical bee-keeping can easily be seen, so it is important to be very sure what is the truth with regard to it.
C. C. Miller.

Dr. Miller might have specified particularly as to what important bearing upon practical bee-keeping he had reference, but some points of bearing are not hard to find. The acceptance of Mr. Doolittle's views, these views being so radically different from those generally entertained, would lead to a radical difference in practise in more than one respect.

At first thought, the question may occur whether Mr. Doolittle has gone so far as to say that the crust of bees is "almost a perfect non-conductor of heat." But a careful reading shows a warrant for that interpretation in the sentence which, speaking of the temperature in a hive placed over the hive containing the brood-nest, it is said, "They will keep that temperature of from 92 to 98 degrees in the brood-nest just as easily as they did, or could, before that upper hive was put on, as the heat is confined within the *cluster* or *crust* of bees, not in the hive." That "just as easily" could not be unless the crust of bees were not only almost, but altogether, a non-conductor.

If the non-conductivity of the crust of bees be an established fact, a great saving of time and labor would result. The great care that some take to close up all cracks about the hive in the spring would be avoided. Packing for winter would be unnecessary. Indeed, there has not been lacking repeated testimony that colonies have been successfully wintered in hives so split and cracked that winter winds could have full play through them. Yet, on the other hand, a very large number have earnestly urged the importance of keeping everything about the hive as warm as possible. If these latter be wrong, and if all that extra trouble may just as well be saved, it is well to know it.

But before acting entirely on the new teaching, it will be at least prudent to have tests more or less decisive.

Drones Fly Farther Than Workers

So says a writer in Praktischer Wegweiser. As proof he recites that he moved a colony of bees quite a long distance, and the next day a crowd of drones returned to the old stand, but not a single worker-bee.

Spreading the Brood

While there is a divergence as to views on this subject, one bit of advice is assuredly safe: Never spread brood when there is already present all the brood the bees can cover. Spreading brood at such a time can only result in loss.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Miscellaneous News Items

Officers of the Connecticut Association are shown on the first page this week. We have the further pleasure of presenting the brief biographical sketches that follow:

ALLEN LATHAM, PRESIDENT.

Allen Latham was born in Thetford, Vt., Oct. 31, 1868; parents, Henry M. Latham and Harriet A. (born Closson) Latham. Parents and 8 children moved to Lancaster, Mass., in 1880. After a common school education "Allen" went from the farm to Harvard College in the fall of 1888, and graduated with the class of 1892. He took up teaching as a profession, and taught school in the towns of Deerfield, Andover, and Walpole, Mass. In the fall of 1902 he moved his family to Norwich, Conn., where he is still teaching in the Norwich Free Academy, having charge of the Science Department.

Mr. Latham married Caroline L. Walker, of Lancaster, Mass., in the summer of 1893, and 4 children have been born of that union—Paul, Barbara, Emily and William.

Such is the non-bee-life of Allen Latham. His bee-life, told briefly in his own words, is as follows:

> I can not remember when bees did not interest me, and I was not over 8 years of age when I caught bees from the flowers and shut them into a miniature hive in hopes that I might start a colony. Some told me that they would not stay unless I had a queen, and surely enough they always left, never to return.
>
> It was not till June, 1884, that my interest in bees was restored in full force. At that time I was in the High School, and our teacher in Botany had taken the class out to study flowers. While analyzing flowers we restless boys discovered a swarm of bees high in an elm-tree. Some one said something about a swarm being worth $20. (Had he even heard of "Lizzie?") Well, I was filled with a desire for the $20, if not for the bees. So about dusk I went for those bees, with legs doubly protected with overalls tied at the ankles, and with arms and hands encased in stocking-legs and buckskin-gloves. Over my head I had 2 butterfly-nets, for I was a butterfly collector.
>
> I climbed the tree, having to shin 16 feet to the first branch, and as it was a warm June day, and I was excited, I was more than ready to rest awhile in the crotch of that first limb. The cluster was only 2 feet away, and as I was preparing to bag it, I heard a voice say: "What in —— are you doing up in that tree?" And it was hot up there, for I can still remember how the sweat trickled down my back.
>
> I bagged those bees, and I have kept bees ever since. That first swarm filled its hive, and then died in the winter from excessive meddling on my part. But on the day they died I bought another colony. In the course of 3 years I had nearly a score of colonies.
>
> I should have said that after I bagged the swarm I went that evening to the town library and took out "The Hive and the Honey-Bee," by that grand old man, L. L. Langstroth. I read the book nearly through that night, and by morning a bee-fever had set in that has waxed hot most of the time ever since.
>
> Like every bee-keeper, I could tell many interesting experiences I have had with bees, but space should not be taken for that. I will simply say that I have moved independently in all my work with bees; have never bought a factory-hive for my own use, and though bee-keeping is my avocation, I have always made it pay for itself, and often known it to help me very materially. ALLEN LATHAM.

Mr. Latham has been an occasional contributor to bee-literature for many years, as the most of our readers know.

D. D. MARSH, VICE-PRESIDENT.

Rev. David Dana Marsh has been an enthusiastic bee-keeper for 27 years. In his first 20 years' pastorate at Georgetown, Mass., he bought a box-hive of black bees, of a farmer, transferred it to a frame hive made by himself, and they produced 50 pounds of comb honey that season.

On moving to Unionville, Conn., in 1888, his few hives were in the car with furniture an entire week, yet brought in pollen in less than half an hour after being released in October in the Nutmeg State.

After a pastorate of 11 years he moved to a church in Hartford, Conn., taking along a few hives, in January, and one of them stored 50 pounds of comb honey the following season.

After pastorates of 35 years he bought a pleasant home in West Hartford, Conn., well adapted, among other things, to bee-culture, and his interest in bees is unabated. From a few colonies of blacks, which he prefers for fancy comb honey, his average crop was 81 sections last season.

He has been a member of the Connecticut Bee-Keepers' Association from its beginning, and has found a few colonies of bees a delightful diversion in the busy years of the pastorate.

J. ARTHUR SMITH, SECRETARY.

J. Arthur Smith is employed in the office of the Connecticut Mutual Life Insurance Co., at Hartford. He is an ardent lover of Nature in all its phases, and his enthusiasm for bee-culture has not waned, but increased since he purchased his first colony, 3 years ago. When quite young, while sitting in a tree eating a sweet pear, he discovered that bees were not such dreadful little creatures, after all, for they would lodge on his face, crawl around his mouth, and fly away. His love for bees might be characterized as sentimental rather than mercantile; however, he is anxious that some of the tons of honey that go to waste each season in Connnecticut may be saved, and will labor to that end. Of all the periodicals he takes, including Harper's Weekly, he enjoys the American Bee Journal and Gleanings the most.

* * *

The Apiaries of Frank Kittinger.—When sending the photograph reproduced on the first page, Mr. Kittinger wrote thus, under date of April 11:

> The photograph I send gives only a partial view of my apiary, which contains 60 colonies, of which 20 are in the house-apiary shown. The hives in the house-apiary are all open to the south, and as will be noticed, the ends of the brood-chambers are exposed to the sun, which, I think, is a great help in successfully wintering bees on the summer stands.
>
> All my bees are wintered on the summer stands. I first put on a comb-honey super containing about 3 inches of dry sawdust, and then put from 4 to 6 inches of forest leaves on all sides of the hives; also over the top. The ends of the brood-chambers are all exposed to the sun, and hive-entrances left open the full width of the hives.
>
> The hives outside the house-apiary are wintered in cases holding 3 or 4 hives each. I have always been very successful in wintering in this way, never having lost a colony that went into winter quarters with plenty of honey and bees, and a good queen.
>
> I suppose some will wonder if I don't lose several queens in the colonies in the house-apiary by having them enter the wrong hives when returning from mating. I do not have any queens mated in this house-apiary, as I allow natural swarming, and hive the new swarm on the old stand. The old hive is then moved to a new stand outside. Besides, I do not have nearly as much swarming from the colonies in the house-apiary as from those outside.
>
> I use the 10-frame Langstroth hive, with Hoffman frames. I also have a few 8-frame hives, but I do not like them as well as the 10-frame.
>
> I run my bees for both comb and extracted honey. Since the photograph was taken, I have built a honey-house, 10x16 feet, to the right of the house-apiary.
>
> I could not get along without the American Bee Journal, as I find several articles that are worth the price of a year's subscription.
>
> FRANK KITTINGER.

* * *

Mr. Huber H. Root has recently been installed as Assistant Editor of Gleanings in Bee Culture. His latest portrait graces the front cover of the May 1st issue, from which we take the following paragraph:

> Our editorial staff has been increased by the addition of new and younger blood in the person of Huber H. Root, named after the great Huber of a century ago. The younger Huber, like his great namesake, is of an investigating turn of mind, and an enthusiast on bees. He is fresh from college, and now has thrown his whole heart and soul into the general subject of bee-keeping. Like his father, he is a genius in getting up new contrivances. Indeed, several patents and useful inventions used by the Root Co., are the product of the brain of the youngest member of The A. I. Root Co.

We congratulate both "Huber" and the readers of Gleanings upon this new combination. Few young men have the wonderful opportunity for usefulness placed before them that has Huber; and few are so fortunate to have such an able assistant as he will be to his brother "Ernest," who for so many years has been editor of Gleanings. They will pull together nicely, even if there is a difference of 21 years in their ages. And it's "all in the family."

* * *

Dr. Dzierzon Failing.—The great German bee-master is reported as being in feeble health, confined to his bed for the past year and a half on account of weakness in his feet. No longer able to read, and too deaf easily to hear others read, his 96th year, which began Jan. 16, is rather a lonely one.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Contributed Special Articles

11—Dadant Methods of Honey-Production

BY C. P. DADANT.

BEFORE I pass to the details of management with large hives, I desire to take notice of an acknowledgment that helps my cause—the cause of large hives. In the April number of the Bee-Keepers' Review, Mrs. F. W. Frey asks how to keep bees from *wanting* to swarm, while producing comb honey. That question cannot be answered in an absolute way. That is, there is not yet a method devised by which we can keep our bees entirely from *wanting* to swarm, most especially when they have to build their surplus combs. But 3 pages further on, I find a partial answer to the question asked. Permit me to quote from the editorial:

"Size of hives, as it *affects* the tendency of the bees to swarm is well illustrated by the experience of Mr. C. F. Smith, of Cheboygan, Mich. He writes that he has bees in 7, 8, 9, 10 and 12 frame hives, respectively, and, of the colonies in the 7-frame hives, 95 percent swarmed; of the 8-frames, 85 percent swarmed; of those on 9 frames, 70 percent swarmed; of the 10-frame style, 55 percent swarmed; while only 33 percent of those on 12 frames cast swarms."

From all sides we can hear the same thing. If we wish to avoid natural swarming, we must give our bees enough room to accommodate the most prolific queens. It is one of the principal steps in the direction of control of swarms.

But this is not all. If we have large brood-chambers, we will rear powerful colonies, whenever our queens are very prolific. These powerful colonies will need more room in every way, for it is out of the question to have a powerful colony satisfied with a super such as would be ample for a small one. So if we expect the large hives to help towards prevention of swarming, we must expect to give them additional surplus room in proportion to the larger size of the colony. Dr. C. C. Miller tried 2 Jumbo hives, in the hope of securing a non-swarming hive. One of these was the first colony in his apiary to swarm. Evidently the colony was able to fill this hive to overflowing, because it had a very prolific queen. Is it not most likely that these bees would have swarmed still sooner had they had but an 8-frame hive to fill, instead of one equivalent to 12 frames?

But Dr. Miller succeeds in securing large colonies with small hives. How does he do it? He adds another hive on top of the 8-frame body, whenever the brood-chamber is full of brood, and allows the queen to go up into this additional hive and breed until the honey crop has begun, when he again reduces it and puts on supers, leaving a body full of combs of brood in only one story. The surplus combs of brood which cannot find place in that one story go to help other colonies. In this way, Dr. Miller avoids the loss caused by the cramping of queens for room to lay, and gets his tremendous crops. It is more labor than by our method, but it is probably the best way to secure a large force of bees with small hives, and to get as much honey as possible stored into the sections.

The apiarist who uses 8-frame Langstroth hives will get a great deal of valuable information by reading the Doctor's book, "Forty Years Among the Bees." I had read it, but did not realize the most valuable points until I had several personal talks with the author.

I am very fond of my own methods, and I feel very sure that others can succeed where we have succeeded, but I am also aware that bee-keepers—no matter how progressive they are—will not throw away their small hives just for the sake of trying my ways. I therefore urge those who have small hives and do not expect to change, to give the method of Dr. Miller a thorough trial. I acknowledge that there is much in the management described in "Forty Years" that will scare a novice, owing to the numerous manipulations performed, but the ideas evolved are to be found nowhere else. Perhaps not enough attention has been paid to the Doctor's methods. Few men have his long experience, his knowledge of the habits of the bee, and few men succeed as he does in producing very large crops regularly. He has both the theory and the practice at his fingers' ends.

But I am running away from my subject. I started to talk about the Dadant methods, and I am falling into the Miller methods. I only wish to emphasize the fact that the Miller methods for comb honey with small hives, and the Dadant methods for extracted honey with large hives, are not antagonistic—they corroborate one another.

There is no method by which we may entirely prevent swarming. Such a method may be devised later, but it will very probably have to be by artificial means and manipulations. But a spacious hive-body in which to rear brood, a thoroughly ventilated hive in which communication from top to bottom is easy; a well-shaded spot; a reduced production of drones; and plenty of surplus-room, will secure most desirable results.

Hamilton, Ill.

[A new edition of Dr. Miller's "Forty Years Among the Bees" has just been issued. It contains an Appendix which brings the Doctor's experience down to date. The book, containing 344 pages, we mail for $1.00, or club it with the American Bee Journal, one year, both for $1.80. The appendix alone is 10 cents. Send all orders to the office of the American Bee Journal.—EDITOR.]

⁂

Facing and Shading Hives—Other Comments

BY ADRIAN GETAZ.

Some time ago a French apiarist reported that all his hives but one were facing east. And that one, facing south, has given him more surplus honey than any of the others. He added that it was shaded by a tree during a part of the day.

My first impression was that this colony had a better queen than the others, or something of that sort; but the context, while not saying so positively, seems to imply that the superiority of that colony had existed for a number of years during which there may have been a number of different queens. It is not likely that they would all have been better than the others.

Then I thought that perhaps the shade given by that tree was the cause. But the climate of western Europe is totally different from ours. It is considerably milder in winter, and very much cooler in summer. So it would be hard to say whether the extra surplus honey was due to the extra warmth of the south exposure, or to the shading of the tree. Perhaps both, if the tree was shading in the middle of the day and letting the sun shine on the hive early in the morning and late in the evening.

The incident in itself is insignificant, but I quote it here to show how hard it is sometimes to give the right kind of an explanation, and how careful we should be when criticising other people's assertions.

SHADE FOR HIVES.

Mr. Alexander, of New York, doesn't want his hives shaded. He says that the extra work the bees do early and late in the day when the sun warms up the hives adds considerably to his surplus. It has been stated already that it is largely a question of locality. Shade might be a nuisance in some parts of the State of New York, an advantage in east Tennessee, and an absolute necessity in Arizona. And that is true, but there is another fact that has been overlooked. Mr. Alexander's surplus honey is altogether from buckwheat, and therefore is gathered at a time of the year when the weather is already quite cool. If it was gathered in July, he might, even in his present locality, find the shade a decided advantage.

ANNUAL RENEWING OF QUEENS.

I was the first one, some 8 or 9 years ago, to advocate a yearly renewing of the queens. I have always said that it was especially an advantage when working for comb honey, and in poor localities like mine. A colony with a young queen is not likely to swarm, and in a poor locality a colony that has swarmed, and its swarm, are not going to give much surplus honey, if any at all. I think Mr. Aspinwall is about right when he says that the colonies which do not swarm give twice the surplus of those that do. Another thing in favor of young queens (those reared late in the preceding year) is that they keep the bees from crowding honey in the brood-nest better than the older ones. And that is an important item. Less honey in the brood-nest means more in the supers. Less honey in the brood-nest means more brood reared and more bees later on, which, where the honey season lasts several months, is an important item.

PRODUCING EXTRACTED HONEY.

There are honest differences of opinion on this subject, and they are fully justified by the difference in localities and managements. The first we find is that of the Dadants, who have always insisted that unless the apiarist wishes to improve his stock by giving selected queens, it is just as well to let the bees renew their queens themselves, when they think best to do it. And this is easily understood. The Dadants are working for extracted honey, use very large hives, and give their bees all the built combs they need, both in the brood-nest and in the supers. With plenty of empty comb in the supers, bees will never crowd the brood-nest with honey, and with plenty of room in the brood-nest the brood-rearing will not be curtailed, and swarming will rarely take place. So the two reasons for wanting young queens when working for comb honey do not exist when working for extracted. It is hardly necessary to say here that in producing comb honey, the difficulty is because the bees are not able to build comb in the sections fast enough to accommodate the honey that they can bring in, hence their disposition to put it in the brood-nest.

CHANGING QUEENS YEARLY.

And now comes Mr. Doolittle, who says that he produces comb honey, but does not think it necessary to change queens every year.

Hm! Doolittle is a bigger man than I am in more ways than one. Perhaps the "locality" may explain the difference of opinion.

If I understand his writing correctly, he has only one flow of honey, from basswood and white clover. Before that flow he has several weeks, in which to build up his colonies. During that time there is enough nectar coming in to keep up brood-rearing, but not enough to furnish any surplus honey. So he can winter only medium colonies, having sufficient time to build them up for the white clover and basswood.

During the main flow he doesn't want too much brood. In fact he doesn't want a queen too prolific at that time. He prefers to have in the sections the honey that the brood would have consumed and have the bees busy in the supers, rather than busy at brood-rearing. As the flow lasts only a few weeks, the bees reared at that time would mature too late to be of any advantage. Others have gone even further in that direction. Heddon, Hutchinson, etc., contract the brood-nest severely at that time. Elwood and Hetherington cage the queens or remove them entirely, partly for the same reason and partly to prevent swarming.

After the main flow is over, there is nothing, or practically nothing, to gather outside, and the extra bees reared during the flow would simply be what has been termed "useless consumers."

Evidently with such management a young queen that would persist in laying as much as possible during the main flow is not wanted.

That the system is good under such circumstances is not to be doubted. The splendid crops obtained by Doolittle tell the tale. The tree is known by its fruits. If I have made any mistake, or misunderstood something, I shall be glad to be corrected. In fact, I would like to have, from Doolittle, a full article on the subject.

OTHER LOCALITIES.

But it does not follow that the same system of management would work well everywhere.

1. In some localites in northern Michigan, for instance, a good surplus can be obtained from wild raspberries early in the spring. Everywhere, now and then, somebody brings forth a super full of sections built and filled during apple-blossom time, showing that in some places, at least, surplus honey could be obtained from that source. Evidently to take advantage of such surplus it is necessary to go into winter quarters with strong colonies, as there would not be time enough in the spring to build them up.

2. Some localities have two flows. For instance, the alfalfa regions have two flows corresponding to the two crops of alfalfa. Some years ago, after having written an article similar to this, I received several letters complaining that during the first flow of alfalfa the bees were crowding the brood-nest and rearing but little brood, with the result that when the second flow came there was not enough field-bees to take care of it, and inquiring if I knew a remedy. Other localities have a second flow of buckwheat or fall flowers, and if the brood-rearing is curtailed during the first flow, what is gained then will be lost later, besides having the bees go into winter quarters in a weaker condition.

3. The trouble mentioned in the case of two flows exists in the case of a long flow, say two months or more, even more rather than less.

4. Sometimes, after the main flow is over, there is during the balance of summer and the fall enough nectar to be had to keep up the colonies and provide with ample provisions for the winter. In such cases the weakening of the colonies during the flow might be a disadvantage. True, more honey might be had as surplus, but after that the colonies would be weaker. And in a very light flow a weak colony might dwindle, a medium one barely keeps up, and a strong one increases, gets full provisions for winter and early spring, and is sure to winter all right and give good account of itself the following year.

5. In my locality, and all over the South, it is still worse. There we have not exactly a long flow, but a long honey season consisting of a succession of usually weak flows, of different duration, and separated by longer or shorter intervals.

No two years are alike. Some flows are sometimes longer, sometimes shorter, sometimes heavy, sometimes light, or missing entirely. The sources of flows are not the same everywhere, and the length of the season also vary with the different localities. What makes it worse yet, is that the spring begins early, but cold, raw, and sometimes freezing weather comes back often, and stops the work in the sections entirely. This of course makes the clogging of the honey in the brood-nest worse. By ample protection of the supers, all possible inducements to the bees to take up work in them, renewing the queens every fall, the evil can be greatly mitigated, but not entirely, by any means; and I am still experimenting in the line of improvements in that direction.

Knoxville, Tenn.

Convention Proceedings

Extracted Honey and Its Quality

Read at the Northern Michigan Convention

BY GEO. H. KIRKPATRICK.

HOW we may produce a better quality of extracted honey than is being produced to-day by the average bee-keeper is a subject of much importance to the average bee-keeper, for fully three-fourths of the annual crop is extracted honey.

I shall not point out any iron-clad rules, though I shall attempt to give a few practical points. Perhaps the most important feature is the location. We should seek a location where the bees will be sheltered from the chilly winds in early spring; a location that will place our bees within easy reach of a very large acreage of honey-producing plants such as yield a quantity of light honey. The practical bee-keeper in a good location will secure a fair crop of honey from any of the different styles of hives now in use.

Twenty-three years have passed since I began bee-keeping. I commenced with the Standard 10-frame Langstroth hive. I have used the Langstroth hive more or less during these 23 years. Having tested pretty thoroughly the Danzenbaker and the Heddon hives, I have proved to my own satisfaction, by repeated tests, that a much better quality of honey can be produced in shallow extracting supers than in deep ones. During the past five years I have built all new hives only eight inches deep. We now have more than 200 colonies in these shallow hives, and we shall continue to build and to use this hive.

Note the results: With this shallow hive we have one suited to the size of the colony in early spring; a brood-frame that the queen will occupy close up to the top-bar. True, a single story of this hive is too small to rear such colonies as we must have to store large crops of real good honey. This hive is suited to the storifying principle—a principle of much importance to the extracted-honey producer. I begin to tier up when the single-story brood-chamber is filled with brood and bees. When the colonies arrive at this stage I put on the first super, placing between it and the brood-chamber a queen-excluder. At this time I lift two combs of hatching brood from the brood-chamber into the super. This I repeat every 7 or 8 days. By this method I am able to increase largely the strength of the colonies.

By the date of the beginning of the honey harvest all colonies should be filling a 2-story hive, and be ready for a second super. This second super, and all others added from time to time, should be placed right next to the brood-chamber. Always keep the oldest honey at the top of the hive—it is the first to be ripened and capped. By the use of these shallow hives the queen will fill the comb with brood plump up to the top-bar; and practically all honey will then be stored in the supers.

During a good flow of honey all good colonies will require an empty super added every 4 to 6 days. With these small supers, only holding 35 to 40 pounds, they are filled quickly, evaporated, and capped. The honey is thus more uniform in body, flavor and color. They are not so apt to contain uncapped honey, and honey from two or more sources, as are the large supers.

It sometimes happens that there comes a change in the kind of honey; it may be a change from raspberry or clover to sumac or milk-weed and then with the large super containing 8 or 10 Langstroth frames, we are much more liable to get the honey mixed. I believe we should be careful to keep the different kinds of honey separate, especially raspberry. I think raspberry is the very best honey with which to build up a trade. It is a winner to make customers.

We should never extract a pound of uncapped honey and sell it for table use. For example, we will say that honey must all be capped before extracting in order to be classed as No. 1 honey. This we will rate at 100 percent. Honey extracted when only three-fourths capped we will class at 75 percent, or 25 percent below the standard.

We will now give a more practical test. We will make a canvass and sell, direct to consumers 500 pounds of No. 1 honey, classed at 100 percent. In 30 days we will make a second canvass and find almost every individual who bought at the time of the first canvass is ready and anxious for a second pail of honey, and the entire community will have learned of the good quality of the honey and 1,000 pounds will be sold, increasing the sales 100 percent more than those of the first canvass. Had we made the first canvass with the honey classed at 75 percent, the chances are that our sales would have fallen below those of the first canvass.

When we know that quality makes the difference between success and failure we should readily see how important it is to produce only No. 1 honey. If you are producing honey of a high standard, you are on the right road to success; if not, it's high time you were putting forth your best efforts to produce the very best quality.

Rapid City, Mich.

Report of the Worcester County (Mass.) Convention

(Sent by C. R. Russell, Secretary.)

The Worcester County Bee-Keepers' Association has become a New England affair, although an attempt to have the name changed to New England Bee-Keepers' Association failed. Some of the members objected to dropping the name, "Worcester County," although they are not averse to allowing others outside of the county to join the society, and for that purpose amended Art. 3 of the Constitution, which provided that all members of the Association should be residents of Worcester County, now making anybody interested eligible to membership.

As a result of this act, 16 members were admitted to the Association from Vermont, Rhode Island and Connecticut.

The institute meeting and convention of the Worcester County Bee-Keepers' Association and Massachusetts Agricultural Society, said to be the first of its kind in Massachusetts, was held in Horticultural Hall. The attendance was much larger than anybody expected, and included prominent apiarists from Boston and different sections of New England.

The meeting consisted of two sessions, morning and afternoon, with a banquet between, and an exhibit of apiarian articles. The lectures were in the library in the hall, which in the afternoon proved much too small for the accommodation of those who wished to attend the meeting, and about 50 people were turned away because there were not seats enough.

The banquet and exhibits were in the main hall. The exhibits were arranged on tables, and included wax, shown by Charles R. Russell, honey-candy by F. A. Farmer, honey by R. H. Holmes, and bee-appliances by F. H. Drake.

The morning speaker was Prof. James B. Paige of Amherst College, who talked on "Bee-Diseases." Prof. Paige devoted most of his talk to the new bee-disease which was discovered by a member of the Worcester County Bee-Keepers' Association, James Wood.

Mr. Paige stated that the disease had been found in bees in Bondville, Enfield, Ware, Greenwich, Hardwick, Prescott, North Dana, New Salem, Belchertown and Amherst. The total area covered by it does not exceed more than 25 or 30 miles in length, and 8 or 10 miles in width. Nothing has appeared in print describing any disease just like it, and it is probably confined to this State.

Prof. Paige stated that it was supposed to have started in Ludlow, but in the discussion that followed, one of the audience stated that he knew of it in Monson and Brimfield, before it got to Ludlow. It was discovered in the summer of 1901.

Prof. Paige was asked what Amherst College was doing for the bee-keepers, and stated that a course was opened in apiculture, and for the past two years had been very successful. This course opens the last Wednesday of May and continues two weeks. There are lectures and scientific and practical work.

Prof. Paige was asked if there are less bee-diseases to-day than there were 25 years ago. "I do not think so," said he, "but if I were to answer jokingly I should say 'No,' because there are less bees than there were then, and for the same reason that they say black sheep eat less than the white, because there are fewer of them."

In the afternoon Arthur C. Miller of Providence gave a general talk on bees, and answered the question put in the question-box. In his talk, Mr. Miller dwelt on what has been called the "Wiley Lie," the report spread among the people of the country regarding the sale of manufactured comb honey. "The public need never be afraid of getting manufactured comb honey," said Mr. Miller.

Allen Latham of Connecticut and Pres. O. B. Hadwen also spoke in the afternoon.

The convention was called to order at 10:30 o'clock, with Pres. Burton N. Gates of the Worcester County Bee-Keepers' Association in the chair. After a few words of welcome Pres. Gates introduced Prof. Paige of Amherst as the morning speaker, and he took up practically all of the morning session, with his lecture and the discussion that followed.

There was a brief discussion, after which Secretary Charles R. Russell read the constitution of the Association, and invited those present who were not already members of the society to join.

Immediately after this dinner was served. Over 70 persons sat down to it.

Mr. Farmer gave a short talk immediately after dinner, on his honey-comb candy, after which the exhibits were examined.

Pres. Gates called the afternoon session to order at 2:30 o'clock. At this session, many more people came than were expected, and a large number were forced to leave on account of an inability to accommodate them.

Mr. Gates announced that the president of the Worcester County Horticultural Society was present, and at this time expressed the thanks of his Association for the kindness and courtesy shown by the Horticultural Society in entertaining them, and said he thought it was fitting at this time to ask Pres. O. B. Hadwen to say a few words, which he did, giving his experiences with bees, and stating that the Society was always glad to receive such an organization as the bee-keepers.

On a motion made by Mr. Russell, the bee-keepers gave Mr. Hadwen, as representing the Worcester County Horticultural Society, a vote of thanks for its courtesy and kindness.

Mr. Gates then introduced Arthur C. Miller, of Providence, as the afternoon speaker. Mr. Miller began by stating that Worcester county had one thing they were to be congratulated on, and that was a county paper, The Telegram, which was willing to give space to bee-culture and agricultural matters in general, which was a point farther than most papers had reached, and added that thanks should be given the press.

Referring to comments heard regarding the scientific treatment of the subject, in the morning, Mr. Miller said:

"If we are going to advance in bee-culture, we must have a thorough knowledge of the bee, not only of its life history, but we have got to try and learn what influences the bee reacts to. We are learning that excessive moisture in the hive reacts unfavorably, and other facts, but we have to know much more about them.

"One question which has been asked me is, 'What chance is there in Massachusetts to make money keeping bees?' With a few exceptions, I think bees are kept for the honey they produce or for the fun a person gets out of it.

"The capital invested and the time expended are the first two things to be considered. With a person having one, two or three colonies of bees, the outfit need not be much. Counting the combs, hives, bees and so on, $15 ought to cover it. In favorable locations, a couple of colonies of bees intelligently handled will yield from 40 to 200 pounds of honey per annum.

"After the bees, it depends upon atmospheric conditions. What the farmers call good corn weather is good honey weather.

"If a person is going into keeping more bees than that, the ratio of cost is less; but if a man wants to make a business of bee-keeping or go into the business on an extensive scale, he will do much the best thing if he hires out for nothing with some experienced bee-keeper, if he cannot hire one to work for him. Above all things, don't go into bee-keeping heavily at the start, because I don't know of anything in which you can lose your money much quicker, unless, possibly, it's the stock exchange."

Mr. Miller talked on the bees he had kept in an empty room, and answered many questions asked him. He spoke of the existing harmony in the Worcester County Horticultural Society, which seems to be lacking in most horticultural societies.

Allen Latham was asked to explain a home-made hive, which he had on exhibition. This was made out of grocery boxes, covered with roofing paper, lapping over the bottom of the boards. Mr. Latham explained how he made the box, which he called "an all-year-around hive."

At the expressed request of one of the audience, he explained how he had his bees swarm. This consisted of forming a tripod of three sticks, placing a branch over it extending to the ground, and then shaking the bees out of the hives. If attention is paid to the queen-bee, to see that she crawls up on the branch, the bees will soon swarm, and can be carried and transferred to a new hive any distance.

The question of forming a New England association was then discussed. Secretary Adin A. Hixon of the Worcester County Horticultural Society, and a member of the Bee-Keepers' Association, was much opposed to the changing of the name of the organization, at least until after the apiarian fair which the society intends to have next fall.

In the discussion which followed it was suggested that a New England association of bee-keepers' societies might be formed later on, to meet once a year, probably in Worcester, which is very central; but it was voted to keep the old name.

Report of the Connecticut Convention

BY J. ARTHUR SMITH.

At the 15th annual meeting of the Connecticut Bee-Keepers' Association, held at Hartford, April 11, 1906, Charles H. Chittenden, who had served as president for 7 years, desired not to be re-elected. It is probably a fact that he engineered the Association through the most critical period of its existence, during which time a number of members prophesied that it would soon be unable to draw hardly anybody to its meetings. But the President, with a few others, held on, with the result that the 15th annual meeting was, it is said, the largest and most enthusiastic in the history of the Association. Therefore, Mr. Chittenden's desire to step one side did not fail to kindle feelings of regret among those who recognized his loyalty to the Association.

Mr. Allen Latham, of Norwich, a capable and progressive apiarist, was elected to the presidency. The election was a surprise to him, but he considered it his duty to accept. He presided over his first meeting with ease, and by intelligent questions and criticisms, at the same time holding the speaker to the point under discussion, much interesting and profitable information was brought out. We believe that under his leadership there is a bright future for the Connecticut Bee-Keepers' Association.

Rev. D. D. Marsh, of West Hartford, was elected Vice-President.

Mrs. Edwin E. Smith, who faithfully served the Association for three years as its Secretary and Treasurer, declined a re-election, and was succeeded by the writer. It was at the home of Edwin E. Smith, of Watertown, that the Connecticut Bee-Keepers' Association was organized, in May, 1891, and Mr. Smith has had the interests of the Association at heart since that date, and the members recognize his fidelity, and that of his wife's, with a sense of gratitude.

The following Executive Committee was appointed: Geo. W. Smith, S. J. Griffin, and Edwin D. Barton.

Some interesting articles were brought to the meeting for exhibition. E. H. Dewey, of Massachusetts, brought a section foundation fastener of his own invention, which was tried by many present, and believed to possess merit.

S. J. Griffin exhibited a neat contrivance for holding four 4x5 sections while the full sheets of foundation, also held in position, are waxed on three sides with a glass-tube and rubber bulb. He also brought a device for enabling one to wire brood-frames without cutting or hurting the hands.

Mr. Latham brought one of his home-made hives, covered with "Paroid" paper, which, I believe, has been fully described in the American Bee Journal. The hive was an object of genuine interest, and an apiarist present who represented more colonies of bees than the rest combined, arranged to have the hive sent to his home. Mr. Latham is of a scientific turn of mind, and gives careful study to a subject before making a claim that may strike some of the veterans as too original to be accepted as truth. I believe that Mr. Latham's theory in regard to placing certain kinds of dark-colored hives, well ventilated, in properly shaded spots, virtually to eliminate the desire for swarming, has not yet been disproved when all the conditions have been complied with.

J. ARTHUR SMITH, *Sec.*

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Newsy Notes of Current Topics, With Some Comments

HOW TO PUT SUPERS ON HIVES.

I notice most bee-books and bee-papers, in speaking of the proper way to add supers (when working for extracted honey) is, when the one is full raise it and set the super of empty combs underneath. My experience is, if the super is put under the brood-chamber that the combs will be filled with pollen, and but few if any of the combs used for brood or honey. We always put our supers on top, and work the brood below as fast as possible.

CHECKING EARLY BROOD-REARING.

In almost all the Northern States bee-keepers are anxious to have their bees start brood-rearing early so as to have strong colouies when the first honey-flow comes. But such is not the case with the Texas apiarist. Most of us would be pleased to know of some practical method to hold our bees in check on breeding. Most of my bees at the end of March were at the swarming point, and we expect no surplus honey before May 1, or perhaps June.

CAUCASIAN BEES.

Wonder what they look like. One writer will say, "We are favorably impressed with the Caucasian bees so far as tried, but they so closely resemble our native black bees in color that it would be difficult to tell when they were crossed with them, so we could tell when we were breeding them in their purity."

Another writer will say, "Caucasian bees are beautifully striped with yellow bands, closely resembling our Italian bees, except they are a trifle smaller, and more slender than Italians."

Still another says, "Caucasian bees look very much like Carniolan, only they have a little more of an ashy color, with more or less red, rusty bands around them, and very much smaller than Carniolans."

Are Caucasian bees like Joseph's coat—of many colors?

NOT BREEDING FROM THE LARGEST PRODUCING COLONIES.

Some of the most scientific writers on apiculture advise not to breed from the queen whose colony produced the very largest yield of honey, but to breed from those that average a little better each year, claiming the former is only a sport, and not so apt to reproduce those qualities, and also claiming the latter more of a fixed type, and thus more apt to reproduce their kind. That sounds reasonable. I confess, though, it's hard for me to keep from breeding from the queen whose colony has produced the largest yield of honey; other things being favorable, to use such queen. I don't do it, either.

MOVING AN APIARY A SHORT DISTANCE.

It became necessary for a neighbor to move an apiary of 35 colonies of bees about 100 yards. We selected a cool time when the bees were not flying. We used the usual precautions to prevent the bees returning to the old location, but more or less bees returned to the old location from every colony but one. Of this one colony every bee stayed just where they were put—not a single bee returned. That colony was smothered! Good way to keep any of the bees from returning to old location. Can't say, though, that I like it. Who will give us a more practical way of moving bees a short distance, without any returning?

PUTTING COMB FOUNDATION IN FRAMES IN WINTER.

Nearly all writers on apiculture advise nailing up hives and frames *and putting in the comb foundation* in the winter and early spring, so as to have everything ready for the bees at a moment's notice when the busy season comes. That's all good advice, except putting in the foundation. I don't know how it is in other States, but in this very changeable Texas climate of ours, foundation has a fashion of warping, twisting, and making very unsatisfactory combs when put in the frames some months before being used. I get the best results by wiring the frames in advance, and putting in the foundation as needed.

Rescue, Tex. L. B. SMITH.

When sending me the above for "Southern Beedom," Mr. Smith requested me to use it, criticise and comment on what he said; and, in fact, he told me to do with it what *I pleased*. (Not exactly in these words, but it is being taken for granted that this is what was meant.)

Mr. Smith will send us news items often, and I am glad to know that we shall have such helpers for "Southern Beedom." Right here I once more want to ask some of our other readers to send us news items concerning our industry. Send me reports of prospects, etc., so we can form an idea as to what our crop may be. All other bee-news will be appreciated also.

Now, Mr. Smith, is this matter of early brood-rearing to obtain strong colonies for the first honey-flow not a matter of "locality?" It is with me, at least. In a few places where some of my apiaries are located, the seasons much like yours prevail; but in others, again, our early April flows require that early brood-rearing be pushed rapidly. A good remedy to check this early breeding was discovered in several apiaries I bought this year. It was simply this: The colonies were "robbed" of their fall crop so closely that they were very short of stores during the spring. Result: Colonies did not breed up, and are not yet (in May) at the swarming point.

Another way is to keep the colonies in several stories of empty combs, and just enough honey near the brood-nest to prevent them from starving. When the proper time comes, resort to simulative feeding to bring your colonies up strong for the honey-flow. But would this be economical and practical?

That's a pretty good way to keep bees where you want them to stay when moving them, but how about obtaining a crop of surplus with such bees that *will stay* where they have been *put?*

Many experiments were conducted by the writer while at the Texas Experiment Station, in moving bees. The distances ranged from a few rods to many miles. For short-distance moving, close the entrances early in the morning—preferably with screen wire-cloth in warm weather—and move to the new stands about noon. Smoke the entrances after all have been placed on the stands, and loosen the entrance-closer a little way, give a few puffs of smoke, and the bees will mark the location. A few may go back, but they will return to their hive. Handling the hives roughly while moving will help to cause them to stay when they are released.

Our Sister Bee-Keepers

OUR TOIL DOTH SWEETEN OTHERS

Conducted by EMMA M. WILSON, Marengo, Ill.

Don't Meddle With the Bees Unnecessarily

About this time of year there is one thing exceedingly hard to do for the sister who has her first colony of bees in a movable-frame hive. But it must be done if the best success is to be attained. It is to let the bees entirely alone when no meddling is needed.

A Michigan Sister's Experience With Bees

About 35 years ago my father-in-law got some bees in box-hives. He took care of them in this way until 19 years ago, when my husband and I moved upon a new farm. He was tired of taking care of them in that rude manner, without veil or smoker. I learned what my husband knew about bees, and then I took care of them alone until we had 25 colonies. Since that I have usually hired a woman to help me through the busy season. Some years I hire a boy that is large enough to lift the heavy supers. My daughter, Daisy, is 17, and she and Harold (21 in the spring) have helped me do the shop-work ever since they were old enough to fold sections or drive nails.

TROUBLES WITH BRUIN IN THE APIARY.

I think it was 14 years ago that we had our first out-yard 2 miles north of our home. We kept it there 2 seasons, and an old bear and her family visited the yard several times and destroyed 7 or 8 colonies during the 2 seasons. Then, one night about 2 o'clock, when my 2 brothers were watching from a scaffold in the bee-yard (and one had fallen asleep), the brother that was awake saw an old bear and 3 cubs coming for another meal of honey. He shot the old bear and one cub, killing them with 2 shots, and the other 2 got away.

The second winter three-quarters of the bees in the out-yard died, and we brought home what were left.

Nine years ago we started 2 more out-yards. We kept from 5 to 75 colonies in them during the winter. We took up one at the end of 2 years, as the location did not prove to be a good one. One yard was 4 miles north and one 4 miles west.

MOVING BEES NIGHTS AND LETTING THEM WORK IN THE DAYTIME.

Then, 7 years ago, we moved 50 colonies to Tustin, over some of the hilliest roads in Michigan. We put 12 single-walled hives in the box and 13 in chaff hives on a rack on each wagon. We traveled nights and rested daytimes, and let the bees fly from the wagons every day. They had such a small amount of honey that we knew they would perish on the road if they did not fly.

I drove ahead of the teamsters with a horse and buggy, in order to warn them of any dangerous places on the road.

We sometimes had to drive until 9 or 10 o'clock in the morning before we could find a camping place.

The weather was extremely hot, and we had the hardest rainstorm I ever saw fall while we camped the afternoon of the fourth day. It wet us all through, and poured in torrents down over the bees and brood in the single-walled hives. The chaff hives on the top all had on covers.

A few hives in the boxes worked loose, so that the bees swarmed around the wagons the last two mornings when the teams were towing up the hills, and the bees on the wagon, that was standing still, would be bringing in honey and pollen before the teamsters would return.

We had our 2 children with us; were 5 nights on the road; traveled 4 nights and put up one night to sleep and dry our wet clothes.

When we had kept bees 4 years at Tustin, our little boy Harry was born. We thought then our work was too much divided, so that fall my husband went up and killed 100 colonies and moved everything home.

We now have 200 colonies in winter quarters. We killed 100 colonies last fall and stored the honey for building-up purposes. The bees are in 3 yards 3 and 4 miles, respectively, from our home-yard.

Our 2 out-yards produced more comb honey than the home yard. We do not watch any of them in swarming time. For the past 7 years my children have helped in the yards when we were dividing and hiving. My husband usually farms while I keep bees, although he *can* do his part in the bee-yard when he is needed. The part he likes the best is drawing home the honey and helping to *spend* the *honey-money!* My little 3-year-old Harry is also a bee-keeper. He does all the work he can around the shop—and bothers the rest of the time.

I think Mr. Frey has done one thing with bees that few have ever accomplished. Three years ago last June he went to the Marion yard, 4 miles west, to get 2 loads of bees for the purpose of starting an out-yard at Sand Lake, 9 miles east of our home.

It was a dark night; and when 3 miles on the road, as they were crossing over a corduroy, his teamster, while driving behind with a load of 18 large chaff hives on his wagon, drove off the end of the corduroy and turned wagon, bees and all bottom side up. They were all large colonies working in 45-pound supers, and the supers were on. They loaded 11 of them again, and then Mr. Frey had to go home for lights and other things to use, as it was raining by this time, and he had to fish a part of the remaining hives out of a water-hole with poles.

This yard proved a failure that summer, so he brought the bees home in the fall. In all the moving of bees we have done, tipping over included, we never had a comb break out of its frame. You see we use the *right style* of frames.

On the whole, out-yards have paid us well. We often get our best crop from the out-yards.

If you want experience that *counts*, keep out-yards.

Sand Lake, Mich., Jan. 30. MRS. F. WILBUR FREY.

The foregoing very interesting letter is taken from the Bee-Keepers' Review. Mrs. Frey is evidently one of the sisters who does things. Not every one would enjoy piloting two loads of bees through 4 nights of travel over the best of roads, to say nothing of roads with dangerous places in them.

But, oh ! Mrs. Frey, how could you have the heart to kill 100 colonies of bees after the busy little creatures had spent their summer storing honey for *you?* Evidently, however, you didn't have the heart to do it with your own hands, but got a man to do it for you.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Prof. Cook's Insect-Tester

Prof. Cook gives on page 294 a good insect-tester to keep in mind. All the bees (hundreds of species) feed their young on pollen, all carry pollen on their hinder legs—and so can be recognized, even when not carrying any, by the broad leg-joints set about with bristles on which it is wont to be carried. Little fellows barely visible, and big fellows big as your thumb all'ee same. But some digest the pollen and feed the concentrated nutriment, while some simply knead up the pollen in a well-tempered mass, and lay the eggs in the mass.

Less Honey and More Price

To round out the view of less honey and more price, given in the first editorial comment, page 321, there needs to be one more question: When people who ate 150 pounds decrease their eating to 100 pounds (with signs of still further decrease), is that a movement that is to our notion or to our profit ?

Is Cuban Bee-Keeping So Profitable?

If Cuba's 82,000 colonies counted in 1902 increased to 100,000 in 1904, then that $1,100,000 of exported honey and wax was $11 per colony. Good. Too good to be probable. 'Spects the statisticians fail to catch all the colonies, all the same as in U. S. Page 322.

Testing Beeswax for Adulteration

Never thought of it in just that way before, but professional adulteration of wax and backwoods adulteration are indeed two different styles of that bad art. Recognizing this may help us a trifle in judging the purity of the article when we know whose hands it has come through. Rather awkward for a non-expert to tell if suspect is or is not just 146 degrees when it melts. The excellent dodge proposed by Adrian Getaz is much simpler for green hands. Put a shaving of the suspected and just such a shaving of undoubtedly genuine side by side on the same warm plate, and gradually raise the temperature. May occur to some one to inquire, if a sample feels right to the hand, and looks right, and smells right, and tastes right, and melts at the right temperature, why pursue the game any further? The most important and crucial point is lacking yet. *Will it stand as much pull at 100 degrees, Fahr.?* That's the spot where adulterated wax fails if comb foundation is made of it. But I guess the grand test could be managed, too. Not so very hard to shave and press two ribbons of wax about the thickness of foundation. On one end of each clip a loop of thick paper into which little weights could be piled. Get them heated right in a hot box or oven. Hold them vertically. Then see how many ounces it takes to pull each ribbon asunder. Page 295.

Sunflowers for Hive-Shade

Dr. Miller's conclusion about sunflowers for shade is not very favorable. I have tried them some and rather like them. Unless hives are quite close together, put 3 plants in a little row instead of one. Need not be afraid to remove a few bottom leaves, provided there are a plenty of big ones left. Greatest fault is that the foliage perishes too early in the fall; and you can prevent that by *keeping all the blossom-buds picked.* I had some that would indulge in but one blossom anyhow; and when that one was removed there was no more fuss. But you must have mellow, good, rich ground if you want big leaves reaching well over. Page 329.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Ontario Foul Brood Act and Inspectors

The Ontario Foul Brood Act has passed the Ontario Legislature, giving the Department of Agriculture full control of the appointment of inspectors. The Minister of Agriculture may appoint as many inspectors as he sees fit, and the Ontario Bee-Keepers' Association legally has no say, though he is likely to consult them in regard to appointments.

Next week the Act will be found in this department.

Working Intelligently With Bees

A great many people seem to think that getting ahead consists in working 16 hours a day, and in getting work done ahead of time. These are both all right in their place, but when I see a farmer "mudding" in his seed in the spring for the sake of having it in early, or the bee-keeper doing a lot of unnecessary work, which a little time spent in forethought and planning would have avoided, the thought comes to me that he might better have been sitting in a comfortable room, busy with his farm journal, bee-paper, and note-book.

A great convenience and time saver is the little note-book with "Things to be done." This, with a pencil, is my constant companion. At the most inopportune moments ideas occur to me—"So and so must be done soon." Right there the work must stop long enough to note that down. Then when the work in hand is finished, it is not necessary to study over what is best to be done next—the note-book tells.

A pocket diary is very convenient, both as a record of weather, condition of bees, and progress of work, and for coming events and appointments.

Natural Disinfectants in Colonies of Bees

In Le Rucher Belge, M. Reidenbach propounds new ideas with respect to disinfection of hives. He says it is well known that bacteria are the cause of a great deal of mischief in hives, but these are in a measure protected from the depredations of these microbes by the formic acid, tartaric acid, and ethereal oils in the nectar. Formic acid, in small quantity, is found in the poison of bees, but exists in much larger quantities in the larvæ, and in combs that have been bred in. He was able to extract from a piece of comb weighing 41 grams about 36 milligrams of formic acid. He found none in virgin comb. He concludes that the object of this acid is to preserve the nitrogenous food of the larvæ, and, consequently, to prevent fermentation and resulting disease. Damp prevents the evaporation of this disinfectant, and predisposes colonies to disease; therefore, it is important to secure good ventilation, so as not to deprive the hive of its weapon against bacilli.

Another means of disinfection is in the tartaric acid found in the head-glands, which, for a long time, were supposed to contain acid. M. Reidenbach's research has shown this to be so, for formic acid is very volatile, and is rapidly dissipated in the air, but he found appreciable quantities of acid in the dry royal jelly several years old, which showed it to be not formic but tartaric acid. This not only inverts cane-sugar, but is of greater importance in the food or larvæ as it changes by oxidation into formic acid.

A third means of disinfection is in the ethereal oils found in honey. It is these that produce the aroma that escapes from a hive during a rapid ingathering, or that attract the bees to the flowers, and give to the plants like fennel, mint, and thyme, their healing virtues. Their action in a colony is inestimable, and they assist in preparing a healthy food, and, while arresting the development of bacilli, give vigor to the colony. An active and vigorous colony produces a large quantity of formic and tartaric acid, and with a rapid flow of nectar the ethereal oils increase, and the bees are in good condition to defend themselves against foul brood.

He concludes by advising the bee-keeper to look after the sanitary conditions of his hives, to be sure that they have proper ventilation and good food; in fact, that they should be in a state always to produce the natural disinfectants to maintain the colony in a healthy condition. There would then be little to fear from foul brood.—British Bee Journal.

The foregoing from the British Bee Journal of 1904, sets forth what the editor calls "new ideas;" and to a very large extent, to me, they are new. Although I had been experimenting for some time with the ethereal oils, I had not thought of the fruit acids; but I am now trying them, and would like to know, through your columns, what my fellow bee-keepers are doing to prevent disease by way of disinfectants; also, what Messrs. Benton, Cook, etc., think about the feasibility of making more use of these acids. With the air, moisture, and carbonic acid in the hives, no doubt the materials for transforming one of these into formic acid are at hand; but are the reagents there to cause these changes to take place unerringly?

Perhaps our bees, after all, when the honey-flow is about over, and they are storing the essentials in their hives for winter, do not go about sucking bruised grapes and apples just for diversion. ROBT. WEST.

Jamaica.

Sorting and Overhauling Combs

During April and May there is much weather when nothing can be done with the bees. A comfortable workshop is then a necessity, and an important matter to attend to is the overhauling of all combs, extracting supers and hives not occupied by bees. All the woodwork is scraped. To start with a super or hive full of combs, the tops of top-bars are scraped off with a wall-scraper used by paper-hangers. The combs are next removed, one by one, and the sides of top-bars, end-bars and bottom-bars scraped with a small, short scraping-knife until every bit of wax and propolis is removed. Then the inside of the hive or super is scraped, and the rabbet for the frame-rest is scraped out with a ⅜-inch chisel.

The combs are all sorted into 3 classes:

1st, Worker-combs — those containing practically all worker-comb, culling out especially those with drone-cells next to the top-bar. These combs may have considerable pollen.

2d, Extracting combs — those containing part or all drone-comb, and no pollen.

3d, Combs to be cut out. In this class we put frames not more than three-fourths filled with comb, and combs which can not go in Class 1, and are very dark-colored or contain pollen. These combs are cut out and melted up along with the wax-scrapings. If a starter of worker-cells a half-inch or an inch can be left along the top-bar, it is left for use in comb-honey hives. If not, it is scraped out clean, and the frame re-wired for a full sheet of comb foundation.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Clipping Queens—States Having No Foul Brood

I want to clip my queens' wings this spring. I have not clipped any before.

1. Is May 1 about the best time?
2. How much of the wing should be clipped off—½ or ¼?
3. Ought all the colonies to have brood or eggs now, that have good queens?
4. Which States are without foul brood? I want to get some queens this year. MINNESOTA.

ANSWERS.—1. That's a very good time. It doesn't matter a great deal about the time, only it's easier to find a queen before a colony gets to its largest numbers.

2. No great matter just how much. Some cut off half or more of the large wing on one side. That spoils the looks of a queen less than to cut off both wings on one side; but others prefer to cut off about half of both wings on one side, because it makes it easier to recognize the queen when looking for her. Some cut the wings differently in different years, perhaps cutting the right wing in odd years, and the left in even years. Others keep a record of queens in a book, clipping each year alike.

3. Yes.

4. I don't know; it is doubtful that any State is entirely free from foul brood. But there is not much risk in getting a queen from anywhere, for if the queen be run into another cage, and the attendant bees be burned with their cage, no disease will be carried.

T-Supers and Quilts—Weak Colony Over a Strong One—Fence Separators

I always winter my bees on the summer stands, and am always afraid to look into them after they are or have sealed up in the fall until warm weather the next spring, because I do not want to let in the cold, as they could not very well seal up again. So I let the hive stay closed. I use 8-frame hives, and work for comb honey only.

1. Do you use supers that are flat on the bottom and top, or are they ship-lapped a little, like the Wisconsin?
2. Is it necessary to have a quilt over the honey-board?
3. Do you use a honey-board or division-board, or both?
4. Would a T-super work on a Wisconsin hive?
5. In putting a weak colony of bees over a strong one in the spring, is it necessary to have a queen-excluder between them? I have done so without an excluder, and never lost but one queen out of several times—probably 10 or 12 different times—doing it.
6. Do you use slats or fences between sections? NEBRASKA.

ANSWERS.—1. I use T-supers which are flat, the bottom of the sections coming down flush with the bottom of the super, and within ¼-inch of the top of the super, making the bee-space at the top of the super.

2. I use neither quilt nor honey-board.

3. No honey-board, and, strictly speaking, no division-board, but I use a dummy, which some call a division-board. The inside width of the hive is 12½, and the frames being spaced 1⅜ that leaves quite a space, which the dummy fills up at one side. The dummy is 5-16 thick, and by first lifting out the dummy it makes it easier to get out the frames.

4. With a little adjustment it ought to work on any hive. Of course a T-super can be made of such size as to fit exactly a hive of any size.

5. If you had not given your experience, I should have said an excluder was absolutely necessary; but I suppose it will work all right without excluder so long as the upper colony is so weak that the clusters of the two stories do not come together.

6. I have used both, but now use only plain wood separators, 1-16 inch thick.

Prevention of Swarming

Not long ago a writer in the American Bee Journal said he prevented his bees from swarming without shaking the combs or looking for queens. Can you tell us how that can be done? ILLINOIS.

ANSWER.—About 20 years ago I gave to the public a plan for the management of a colony after swarming, which, with a little modification, might fulfill the conditions. If you want to try it, proceed thus:

Set off the super or supers, and set the hive off its stand. Put on the stand a hive containing a frame of brood in all stages (this frame may be obtained wherever it is most convenient), and 2 or 3 frames containing comb, foundation, or starters. On this put the super or supers, and the cover. On top of this cover set the old hive with its contents, and put a cover on. Ten days later put the old hive down in its place, taking away the other hive.

You will see that the queen has not been searched for, and that the hive has not been opened at all, only lifted back and forth at the two times of operating.

You may want to know whether the bees will not build crooked comb in the place left vacant during the 10 days. No, these queenless bees are little given to comb-building. In hundreds of cases I have had no trouble, but I have always put a dummy next to the combs. You may also want to know what to do with the 3 or 4 frames taken away at the end of the 10 days. They can be given to any colony that needs building up, or they may be used to start new colonies, although only one frame will contain brood. If the frame of brood was taken from a choice queen, you will have some queen-cells of the best sort. If you set the hive and its contents on a new stand, in about two weeks you will have a nice nucleus with a laying queen. No need to fasten the bees in the hive when you put it on a new stand. These queenless bees will stick to their frame of brood with its queen-cells.

Not having tried it, I can not guarantee that there will be no swarming. Certainly not for some time. Possibly not at all, and possibly in a few cases. It would be a pleasure to have you report the outcome if you should try the plan. The later the operation, the greater the assurance of success.

Dividing Colonies for Increase

I started last year with 3 colonies of bees and increased to 8, but I find most of them starved to death during the winter.

1. If I place a hive-body with empty combs on top of a strong colony, is it likely they will put brood in the upper story? If so, couldn't I make increase simply by taking the two stories apart and placing them side by side?

2. What is the best way to make increase when more is desired than can be had by natural swarming? IOWA.

ANSWERS.—1. Nothing certain about it. The queen might go up into the upper story and she might not. You know that the instinct of the bee is to store honey above the brood-nest, keeping the brood below. So you can make a more sure thing of it by putting the empty hive under instead of over. Then as the bees fill in honey above, it will crowd the brood-nest down into the lower story. Then you can set the upper story on a new stand, and sometimes it would work all right and sometimes it wouldn't.

2. More ways than one can be used, and if you are well informed as to the contents of a good bee-book, you can tell better than any one else what will be best for you. Here's one way by which you can increase more rapidly than by natural swarming:

Take away the queen with one frame of brood and the adhering bees and put it in a new hive on a new stand. Ten days later there will be queen-cells well matured, and you can then put each frame of brood with its bees and a queen-cell in a new hive. You will see that in that way you will have from each colony 6, if there are 6 frames in the hive. But if you do that way nearly all will be pretty sure to die the next winter, and you will be no farther ahead than you are now. You would probably be farther ahead now if last year there had not been so much increase. So instead of starting a nucleus with only one frame of brood and bees, take 2 or 3, make sure that a good cell is located in the center of the cluster where there is no danger of its being chilled, and fasten the bees in the hive for a day or two. If the season is good, you may possibly repeat the process, after all have built up good and strong; only this time start your nucleus with 3 or 4 frames of brood, drawing some of them from colonies that are strong enough to spare them.

The Dempsey Super

Have you ever tried the Dempsey super, described on page 382? and is it all that it is there represented to be? IOWA.

ANSWER.—I have never seen it, but on the face of it I should not expect such extravagant claims to prove true.

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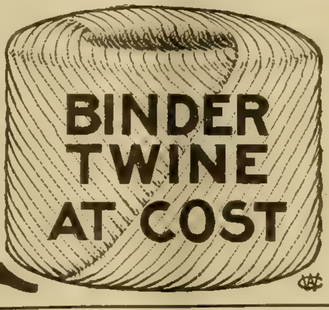

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Reports and Experiences

Keeping Mice and Ants Out of Hives.

Since I began keeping bees 13 years ago it has been to me the most fascinating of all pursuits. It seems to me that some of us become magnetized or fascinated to a very remarkable degree in the work of the apiary—bee-fever. I became inoculated with this at the outset. I could hardly see any plank or box of wood but what I wondered to what use it could be turned in the bee-yard. Really, it was so enchanting, and appealed to the ideality to watch the bees coming and going at the hive. I imagined, thought, planned and dreamed bees. I procured many books like "A B C of Bee Culture," "Langstroth's on the Honey-Bee," etc.; also bee-papers, which I read with great interest.

I find that a few simple but necessary principles enter into all success in bee-keeping. First is preparing bees for winter and spring. This underlies the golden rule: "Keep your colonies strong." The best time to feed is in the fall. I tried different kinds of feeders, but after all I found as simple and successful as any was to feed in tin pans that hold about ½ gallon. I experienced some trouble at first to get the bees to come into the pans, but using pieces of comb bent across the edges of the pans, they would readily come over such ladders and rapidly carry the food to the brood-chambers. The supers not having been removed in the fall, were helpful in feeding, for they are then fastened on by the bees and prevent trouble with robbers. Of course, the feeding must be done near nightfall.

Another point: Put plenty of straw in the pans, and no bees will be drowned. Bees now fed, arrange strips inside the

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super so as to give them space for passage over the top of the brood-frames. Now, a cloth—muslin, duck, or gunny-burlap—should be placed over strips tucked down snugly all around, the rest of the super filled with chaff, the hive top put over this, and all made rain-proof.

Next, make the hives so that mice can find no entrance. Some do this by narrowing the entrance to the hive so it will be only ¼-inch deep. This will answer, but I have found a device which excludes both mice and ants at once. This consists of a hive-stand or bench to insulate the hives. Put down four posts a foot or so deep, and bore holes in their tops. In the holes put iron rods, say ½-inch in diameter and 9 inches long. On top of the rods put pieces 16x3x4 inches, making in them holes to fit the rods so there will be about 6 inches of rods between the posts and pieces. Use cans with coal-oil wicks. Capillary attraction will carry the coal-oil and feed it to the wicks, which should encircle the rods. Now, no ant can pass from the earth to the hives without going over the rods, and the oil from the cans passing through the wicks encircling the rods will prevent ants. Also, on top of the rods place tins—pie-plates will do. These will shelter the cans of oil and also prevent mice from having access to the hives. J. H. Collins.

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Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

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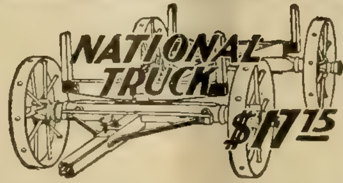

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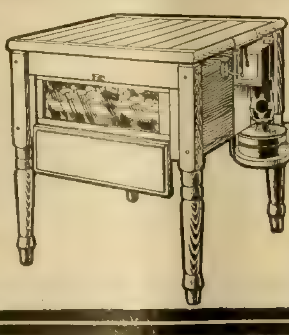

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By Return Mail—$1.00 Each,

From our fine strain of 3-band Italians, that are unsurpassed as honey-gatherers. Try them; they will not disappoint you. Send for price-list.
J. W. K SHAW & CO.
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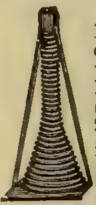

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One New** subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
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(Will Atchley, Prop.)
Beeville, Bee Co., Texas.

Italian and Caucasian
BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in MAY:

One Untested Queen	$1.10
" Tested Queen.	1.50
" Select Tested Queen	1 65
" Breeding Queen.....	2.75
1-comb nucleus (no queen)	1.15
2 " " "	2 00
3 " " "	3.00

Untested in May; all others ready now from last season's rearing. Safe arrival guaranteed.

For prices on Caucasians and larger quantities, and description of each grade of queens, send for free catalog. **J. L. STRONG**
16Atf 204 E. Logan St., Clarinda, Iowa.

Mention Bee Journal when writing.

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ANOTHER GREAT OFFER

We wish to mail our new 8-page catalog to 1000 more progressive bee-keepers in the United States and Canada in the next 10 days. This catalog is full of valuable information for bee-keepers, and is the finest ever issued by a Queen-Rearing Concern.

Here's pay for your help: The first 100 persons sending us 10 addresses of bee-keepers with $1.00 cash, will receive one of our very finest Select Tested "Pure Gold" Italian Queens. We sell them for $2.00 each; they are worth $5; every queen a breeder of the highest type of color, gentleness and fertility, line bred to the Rose Lawn standard. If the queen does not suit you, send her back and get your money. That's a fair offer.

This is purely an advertising proposition, and only 100 Select Tested Queens will be furnished at this price. Send on the names and a dollar. **ROSE LAWN APIARIES.**
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Increased Business Compels Larger Space

So we have just doubled our capacity in the building at 141 Ontario Street, where we carry a full line of **POULTRY SUPPLIES** and

LEWIS POPULAR BEEWARE

Catalogs on application. **Orders filled promptly at Factory Prices.** Beeswax wanted—28c cash or 30c in trade.

Italian Bees in modern hives with select Queens for sale. Also Pure Italian Queens.

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Until June 1, 1906, we will **give free**, on each order for bee-supplies amounting to $10 or over, a choice of **one** of the following: A Bingham Doctor Smoker; a Bingham Honey-Knife; or a year's subscription to the Weekly American Bee Journal.

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H. M. ARND, MGR. (Not Inc.

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To sell lot of 300 empty 60-lb. capacity Honey-Cans. All in one lot, or less quantities. Cans are in first-class condition.

We are also in the market for Fancy Comb and Extracted Honey. Correspondence solicited

MICHIGAN WHITE CLOVER HONEY CO., Detroit, Mich.

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Best 3-band Italian—1 Untested Queen, 75c; 6 for $4; 12 for $7.25. One 2-frame Nucleus with Queen, $2.25; 10 in one bunch, $17.50.

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Hives, Sections, Etc.

To reduce my stock I will sell No. 1 White Polished Sections at $3 90; No. 2, $3.40—all sizes; plain, 25c less per 1000. Best White Pine Dovetail Hives, 8-frame, 1½-story, $1.30; 10-frame, $1.45. Great reduction in Smokers, Foundation, and all Apiarian Supplies. 24-lb. Shipping Cases, very nice, 13c; Quart Berry Baskets, $2.75 per 1000. Send for free Catalog.

W. D. SOPER, R.F.D 3. JACKSON, MICH.

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None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

GRANT ANDERSON,

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28 Years a Queen-Breeder

Have shipped Queens to nearly all countries on the globe.

Italian and Caucasian, both in separate yards.

Circular free.

The Wood Bee-Hive Company

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ANGLE STEEL BED
$2.98

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We want to demonstrate in this advertisement how you can make money by buying furniture direct from us and saving all middle profits. Compare these prices with what your dealer asks you and remember—**we pay the freight.** You cannot match our qualities or our prices anywhere else.

STEEL SANITARY BED COUCH
$4.00

This beautiful full angle steel Bed, substantially made, finished in White Enamel with polished brass knobs, in four sizes—will give you complete satisfaction. At **$2.98** it is a wonder and is cheaper than your home dealer can buy it. ¶ This steel Sanitary Bed Couch is an ornament to any room—cannot be told from an ordinary couch; can be quickly converted into a comfortable sanitary bed; finished in gold and aluminum. **$4.00** makes this a bargain you should not miss. It will practically add another bed room to your home. ¶ This solid oak Extension Table is a real bargain. Never before has there been offered so large and handsome a table for so small a price. You must see it to appreciate its true value. Finished in golden oak and is the best dining table for the price you ever saw. Send **$4.98**—if it don't please you we take it back and refund your money. ¶ This handsome, well-built 3-section Book Case will put your library on a new system. Can add to it at small expense, as the number of your books increase. Comes in quartered oak, mahogany or plain oak finish—all hand rubbed and polished. Complete with three sections, base, cap and dust-proof glass doors—**$11.85** ¶ This Refrigerator is made of ash, with quarter sawed oak panels, golden finish, solid bronze hinges and lock, zinc lined, removable galvanized iron ice rack and flues, with slide adjustable provision shelves. A beauty and a bargain for **$7.90.** ¶ This high grade, high arm, 3-drawer, ball bearing, drop head Sewing Machine, guaranteed for twenty-five years, is the biggest sewing machine bargain ever offered at our price, **freight paid—$15.25**— ¶ Order any article listed in this advertisement on our positive guarantee of satisfaction or money back. We stand back of every sale and every article we ship out. They must be exactly as we represent them or no sale. Write today for complete furniture and sewing machine catalogs—see how we save you money all along the line.

Ask about our **Special Plan** which will save you $150. to $250. a year as long as you live.

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Lansing, Mich. Chicago, Ill.

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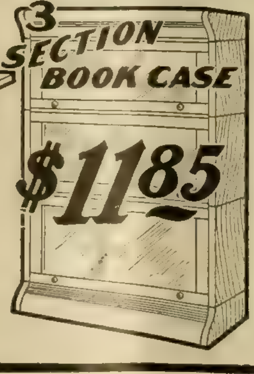

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$15.25

CHARLES MONDENG SECTION MACHINE

is covered by two Patents. With this wonderful invention the cost of making Sections may be reduced to $1.15 per 1000. If such Machine will interest you, write for further information. Do not write about it unless you mean business.

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My Catalog for 1906 is now ready for distribution. I am the Northern Headquarters for **Adel Queens and Bees,** and good, honest Bee-Keepers' Supplies. If you have not received my Catalog, write for it. Address,

CHARLES MONDENG,
160 NEWTON AVE., N., MINNEAPOLIS, MINN.

Have You Passed the Experimental Stage?

Most bee-keepers have been convinced that when time and material are figured, it pays to buy hives, and the best is not only as cheap, but—

The Best is the Cheapest!

The Elgin Hive excels in many ways—no nails to drive—no dovetails—can be taken apart at any time.

Many are using them. You **should** be. Write to-day for catalog, etc.

We sell **full line of SUPPLIES.**

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Perch River, Jefferson Co., N. Y.
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Bee-Keepers

If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to

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FREE This catalogue will save you money on your grocery supplies.

FREIGHT PAID

What do your groceries cost you a year? Will you buy them of us if we can prove that we will save you from 10 per cent to 20 per cent and *pay the freight?* That certainly is an amount worth saving; it is worth the trouble of asking for the proof. Get our large Grocery List and compare our prices with what you have been paying. Then put us to a greater test—send us a trial order and compare the goods and the prices. If we do not save you big money, send the goods back at our expense. The grocery bill is the biggest part of the family expenses. We will cut it almost in the middle and guarantee everything we sell. We can do this because we buy in immense quantities—carloads and trainloads—and we give you the benefit of our ability to buy cheap; in fact we can sell to you at just about the figure your local dealer would have to pay. We save you *his profit* and the *freight* besides.

FREIGHT PAID
National Supply Co.
Grocery List.
No 10
May, June, July, August 1905.
Wholesale Distributors of Everything for Everybody
Direct from Factory to Consumer.

To save still another 10 per cent, become a member of the **Co-operative Society of the National Supply Co.** We'll tell you how to get this extra 10 per cent discount, if you will write for full information. An easy way to make money.

If you want to save money get our catalogue and learn just how cheap you can buy groceries from us. Catalogue is ready and lists everything in the grocery line. We send it *free.*

Co-operative Society of the National Supply Co., Lansing, Mich. and Chicago, Ill.

FOR SALE

50 Colonies of Italian and Carniolan Bees in 8-frame hives, all nearly new and all in good condition. One colony, $5.50; from 5 to 10 colonies, $5 each. WM. J. HEALY,
16A5t MINERAL POINT, WISCONSIN.

Italian Bees for Sale

We can furnish Nuclei and full colonies of Italian Bees (f.o.b. 100 miles west of Chicago by express) at these prices, on Langstroth frames:

FULL COLONIES in 8-frame hives, $5.50 each; in lots of 5 or more at one time, $5.25 each. Full colonies in 10-frame hives, $6 each; in lots of 5 or more at one time, $5.75 each.

Nuclei (3-frame) with Tested Queen, $3.25 each; in lots of 5 or more at one time, $3 each. Nuclei ready for delivery about May 10; Full Colonies any time now.) Orders filled in rotation. Address,

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100 colonies of Bees for sale cheap in 10-frame L. hives. All frames are worked out on full sheets of heavy foundation. 100 all-zinc queen-excluding Honey-Boards. Queen and Drone Traps, Smokers, 1 and 2 pound Sections, Hoffman self-spacing Frames, etc.

Address, **G. PROCHNOW,**
18A6t **MAYVILLE, WIS.**

Nuclei For Sale

25 or 30 choice 3-frame Nuclei on L. frames, $2.50 each. No foul brood in our county.

W. T. LEWIS, Lewisburg, Miss.
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FOR SALE

One car-load of Italian Bees in 10-frame dovetailed hives, in excellent condition. $3.75 per colony. Address,

20A1t **THE HYDE BEE CO., Floresville, Tex.**

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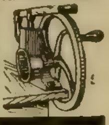
is a hen's natural work. Cut bone is the raw material she needs to make her lay an egg a day. A **CROWN BONE CUTTER** will prepare the food from scrap bones quickly, easily. Write for catalog—tells about the Crown.



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Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

ADRIAN GETAZ,
45Atf **KNOXVILLE, TENN.**

☞ J.G. Goodner, of this State, writes me that he "prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

For Queens

Send to **JOHN W. PHARR**
Berclair, Tex.

He will furnish at the same prices as last year: Tested, $1; Untested, 75c; 5 for $3.25; 10 for $6; 15 for $8.25; 25 for $12.50; 100 for $45. He breeds Goldens, Carniolans, and 3-Band Italians. Also 1. 2, and 3 frame Nuclei and full colonies. Prices given on application. Pharr pays the freight, and guarantees satisfaction on all Queens. To do justice and judgment is more acceptable with the Lord than sacrifice.—(Prov. 3:21.) 5Atf

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Lowest Prices

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ESTABLISHED 25 YEARS

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Sample copy free.

Our large, illustrated Price-List of Supplies free on application. Address,

The W. T. Falconer Mfg. Co.
JAMESTOWN, N. Y.

Headquarters for Bee-Supplies

ROOT'S GOODS

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Complete Stock for 1906 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH as 'most all freight now goes through Cincinnati.

Prompt Service is what I practice.
Satisfaction Guaranteed.

You will **SAVE MONEY BUYING FROM ME.**

Catalog mailed free. Send for same.

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. - Warehouses, Freeman and Central Aves.

Honey and Beeswax

Chicago, May 8.—The supply of comb honey is small, and only choice is being asked for, which brings 15c per pound; No. 1, 14c; off grades about 10c. White extracted, 6½@7c; amber, 5½@6c per pound. Beeswax, 30c.
R. A. Burnett & Co.

Toledo, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
Griggs Bros.

Indianapolis, March 24—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, May 9.—The season is so far advanced that there is not enough call for comb honey to fix a price. Some few lots are being sold at the best offers. We quote: Extracted honey, fancy white, 7c; amber, 5½@6c. Beeswax, 29c.

We are producers of honey and do not handle on commission.
Wm. A. Selser.

New York, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
Hildreth & Segelken.

Cincinnati, March 8.—The conditions of the market, at the present time, are not encouraging. Honey is offered from all sides, at prices utterly regardless of the value of the article. At the same time, all indications point to an unusually good honey crop, which adds in making it a drag on the market. Amber extracted honey in barrels, 5@6½c; fancy white, in cans, 6½@8½c. Choice yellow beeswax, 30c, delivered here.
The Fred W. Muth Co.

Denver, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
The Colo. Honey-Producers' Assn.

Kansas City, May 5.—Our market is about cleaned up on old comb honey. What there is now left is selling at $3.25 per case for fancy white. It looks as if there would be a good demand for new honey just as soon as it comes to market. There will be very little comb honey left over this season in this city. Extracted is moving rather slowly at 5½@6c. Beeswax, 25c per pound.
C. C. Clemons & Co.

Cincinnati, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fency white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. Weber.

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When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 South Water St. Chicago, Ill.

Cash for Beeswax

Highest market price paid promptly all the time for good wax.

Frank G. Clark, 147 E. Kinzie St. Chicago, Ill.

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Until further notice, finest quality new crop California Water-White White Sage and Light Amber **HONEY** in 60-lb. tins, 2 in a case; new cans and new cases. Write for prices and samples, and state quantity you want.

Hildreth & Segelken
265 & 267 Greenwich Street, New York, N.Y.
34Atf Please mention the Bee Journal.

FOR SALE

Second Hand Empty 60-pound **HONEY-CANS** —two in a crate. In lots of 10, 40c per crate; 25 or more crates, at 35c per crate.

THE FRED W. MUTH CO.
20Atf 51 Walnut St., Cincinnati, Ohio.

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We Sell Root's Goods in Michigan

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**

M. H. HUNT & SON,
Bell Branch, Wayne Co., Mich

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We handle the finest Bee-Supplies, made by the **W. T. Falconer Mfg. Co.**, Jamestown, N. Y. Big Discounts on early orders. Let us figure with you on your wants.

Muth Special Dovetail Hives have a Honey-Board, Warp-Proof Cover, and Bottom-Board. Think of it, same price as the regular styles. Send for Catalog.

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51 Walnut Street, CINCINNATI, OHIO.

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THOUSANDS OF LEWIS HIVES

Now in the warehouses of our Agents ready to be shipped you at a moment's notice. Twenty different distributing points. Wherever you are you can't get away from **Lewis Goods.**

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2. Frank Rauchfuss, Mgr. Colorado Honey-Producers' Association, Denver, Colo.
3. Chas. H. Lilly, Pres. Chas. H. Lilly Co., Seattle, Portland, San Francisco.
4. E. H. Taylor, Welwyn, Herts, England.
5. Chas. B. Stevens, of C. B. Stevens & Co., Havana, Cuba.
6. A. G. Woodman, of A. G. Woodman Co., Grand Rapids, Mich.
7. C. M. Scott, of C. M. Scott & Co., Indianapolis, Ind.
8. A. I. Davis, Sec'y Southwestern Bee Co., San Antonio, Tex.
9. Fred Foulger, of Fred Foulger & Sons, Ogden, Utah,
10. F. R. Davis, Ass't Mgr. Grand Junction Fruit Growers' Association, Grand Junction, Colo.
11. R. C. Aikin, Loveland, Colo.

12 and 13. Norris & Anspach, Kenton, Ohio.

14. H. M. Arnd, Mgr. York Honey & Bee Supply Co., Chicago, Ill.
15. Adam A. Clarke, Le Mars, Iowa.
16. M. H. Silvernale, Mgr. Kenyon Yard, Wisconsin Lumber Co., Faribault, Wis.
17. Paul Bachert, Lancaster, Calif.
18. Chas. N. Greene, of Cleaver & Greene, Troy, Pa.
19. A. Lehman, Mgr. Arkansas Valley Honey Producers' Association, Rocky Ford, Colo.
20. B. C. Hanssen, of Louis Hanssen's Sons, Davenport, Iowa.
21. Robert Halley, Montrose, Colo.
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Offices, Factories, and Warehouses

WATERTOWN, WIS., U.S.A.

Established 30 Years.

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One Hundred Thousand Hives

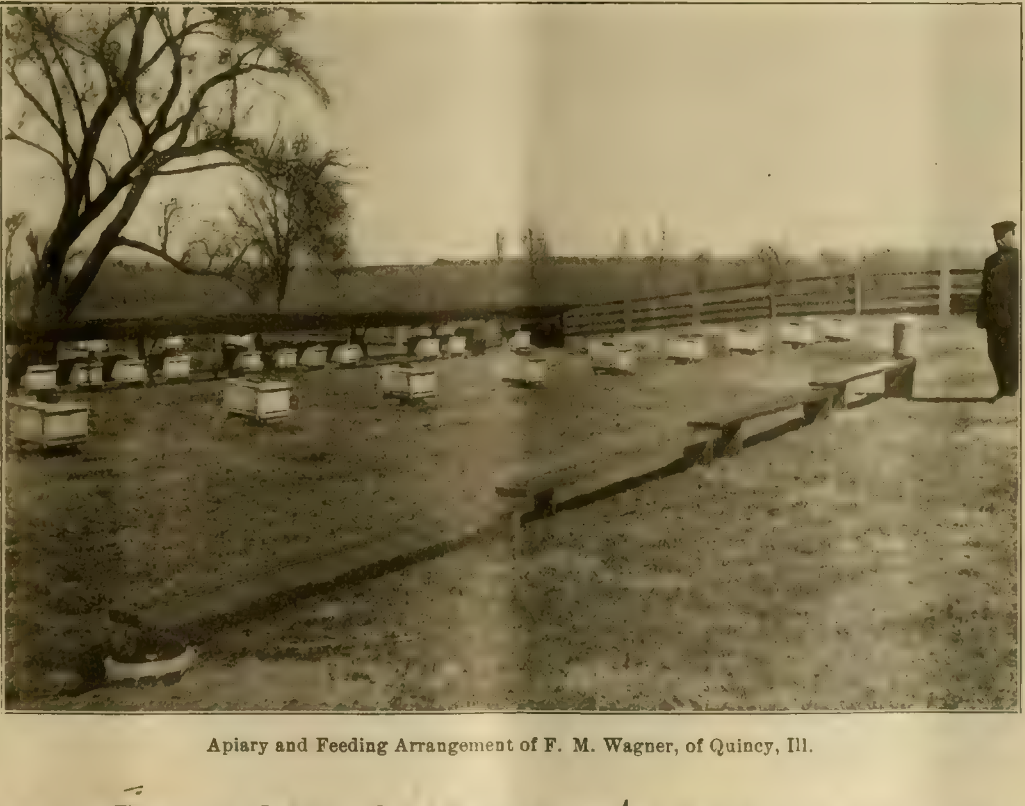
AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., MAY 24, 1906 No. 21

James F. Wood.

Apiary of C. G. Chevalier.

(See page 442.)



Apiary and Feeding Arrangement of F. M. Wagner, of Quincy, Ill.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

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Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times	5 per cent	100 lines	5 per cent
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26 "	20 "	1000 "	20 "
52 "	30 "	2000 "	30 "

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Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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The Emerson Binder.

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334 Dearborn Street, CHICAGO, ILL.

Contents of this Number

Illustrations—

Apiary and Feeding Arrangement of F. M. Wagner .... 1st Page
Apiary of C. G. Chevalier. .... 1st Page
Division-Board Finished 443
Frame Cushioned for Division-Board 443
Wood, James F .... 1st Page

Editorial Notes and Comments—

Claims of Advertisers and Subscribers 442
Good Early Brood 442
Retention of Heat in the Brood-Nest Again 442

Miscellaneous News Items—

Apiary of C. G. Chevalier 442
Good Kind of Complaint 442
Wagner Feeding Arrangement 442

Sketches of Beedomites

Wood, James Fitts 442

Contributed Special Articles—

Plain and Chaff Division-Boards 443
Queenless Bees in Queen-Rearing 444
Using Unfinished Sections as "Baits" 444

Canadian Beedom—

Giving Cellared Bees a Winter Flight 446
Ontario's Foul Brood Law 446
Prospects Good So Far. 446

Our Sister Bee-Keepers—

Black an Irritator 447
Outlook for a Good Crop 447
Protection Against Bee-Stings 447
Sweet Clover—White and Yellow 447

Mr. Hasty's Afterthoughts—

Advices to Bee-Keeping Beginners 447
Baby Nuclei 448
Covers of the Latham Home-Made Hive. 447
Drones and Swarming 447
Sad that So Few Read Bee-Papers 448

Southern Beedom—

Bee-Keeper's Fun 448
"Crosses" and "Hybrid" Bees 448
Holy Land or Palestine Bees 448
Texas Mesquite (poem) 448

Dr. Miller's Question-Box—

All-Zinc or Wood-Zinc Excluders? 449
Best Comb-Honey Hive 449
Best Queen-Excluding Honey-Board 449
Corkdust Cushions 449
Dark and Light Colored Clothing for Bee-Work 449
Frames of Buckwheat Honey for Spring Feeding 449
Gasoline Treatment for Wax-Worms 449
Introducing Queens 449
Mold in Hives in Winter 449
Painting Bottom-Boards 449
Preventing Increase 449
Preventing Swarming 449
Removing Queen-Cells. 449
Serradella as a Honey-Plant 449
When to Do Spring Bee-Work 449
Will Bees Swarm Under These Conditions? 449
Wiring Frames 449

Reports and Experiences

Bee-Business—Wintering 450
Frame-Spacers 450
How the Bees Wintered 450
Lots of Timber for Sections, Frames, Etc. 450
Some Experiences with Bees 450
Wintered Well—Ready for Work 450

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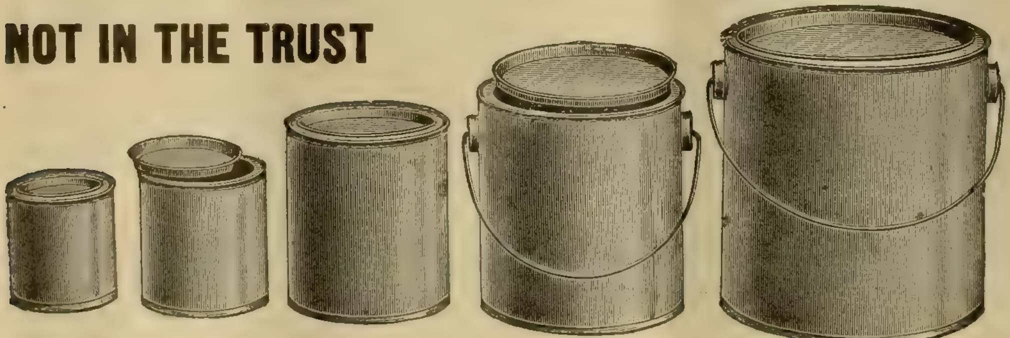

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Swarming Done Away With

In addition to continuing the several interesting articles by Alexander, and other noted contributors, which are running in GLEANINGS IN BEE CULTURE, the publishers announce as a special feature for the remaining issues of the year, a series of articles on the CONTROL OF SWARMING FOR COMB-HONEY PRODUCTION. These by bee-keepers who have experimented to the point where experimenting is done, and the crown of success has been awarded.

If you have not seen the first installment of this series, send in your name for a three-number trial subscription, which will be given free of charge. The April 15th, May 1st, and May 15th numbers will be mailed to you, and by June you will undoubtedly be so interested you will want to take a six months' subscription at least. The special price of which will be 25 cents.

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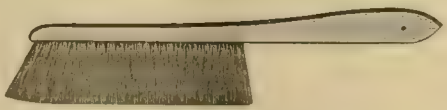

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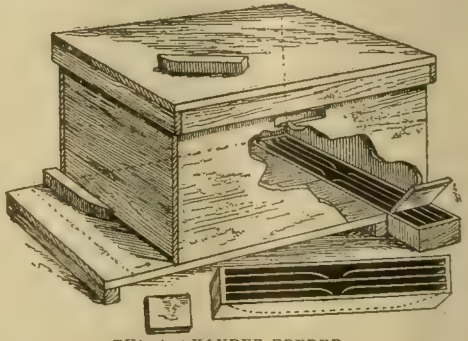

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GEORGE W. YORK, Editor CHICAGO, ILL., MAY 24, 1906 Vol. XLVI—No. 21

An Independent Bee-Paper

The American Bee Journal is absolutely an independent publication, and neither is it nor its editor connected in any way with any bee-supply business whatsoever. It stands entirely upon its merits as an educative force in the field of bee-keeping, and as a medium for legitimate advertisers in Apicultural or other lines. It is the oldest, and only weekly, journal of its kind in America. Its publishers believe that it deserves to be in the hands of every would-be progressive, successful bee-keeper in the land. It is in its 46th year, and to-day is acknowledged to be better in every way than at any time during its long and honorable history.

Editorial Notes and Comments

Retention of Heat in the Brood-Nest Again

In the interesting article by G. M. Doolittle, page 363, he tells us that when an upper story is put over a colony of bees, the crust of bees prevents the heat from escaping into the upper hive, and that the temperature in this upper hive will vary just in accord with the weather outside. It seems to have occurred to Dr. Miller that it would not be a difficult thing to put the matter to an actual test. He put an empty hive-body over a strong colony, and on the inside of the cover, over this upper story, he fastened a thermometer, and compared its readings with those of another thermometer outside, making corrections for the difference in the two thermometers. He thus reports :

The experiment was made May 7 (a cool day), but early fruit-blossoms were a strong attraction, and as the day advanced bees worked busily in spite of the fact that the temperature never went above 58 degrees. About an hour after the upper story was given in the morning, the temperature in the hive was 21 degrees higher than the outside air, which was 47 degrees.

Observations taken at other hours in the day showed the following results : At 9 : 35 the difference between the temperature outside and the temperature inside was 17 degrees ; at 11 : 15, 21 ; at 12 : 15, 22 ; at 1 : 40 p.m., 13 ; and at 5 : 10, 9 degrees. It will be noticed that it was warmer in the hive at the first observation than at the second. That may have been because the bees were stirred up before the first observation, and cooled down before the second.

Plainly there is a conflict of opinion, but not necessarily a conflict of facts; as observed by the two men. One fact is that it was warmer in the upper hive than in the open air. The other fact is, that the temperature in the brood-nest was practically constant, that constancy resulted from the supposed fact that the crust of bees prevented the escape of heat, hence there could be no increased heat above as a result from the cluster below.

The observations of Dr. Miller seem to show that this deduction is incorrect, and the reason for the uniformity of temperature in the brood-nest must be sought elsewhere. May it not be from the increased consumption of stores, and the consequently increased production of heat, according to the exigencies of the case? In this may also lie the answer to the question that Mr. Doolittle asks, when he asks whether any one can tell why a little cluster can keep up to 92 degrees continuously. It is because they consume more to make the increased heat. A little stove may keep a room warm enough, but it is only by keeping a fiercer fire than would be needed in a larger stove.

Good Early Brood

A valued Wisconsin correspondent, in a communication, says this among other things :

> By reports there must have been a heavy loss of bees over a wide area. Mine came out in very good condition. I have a colony with a great grand-daughter of the much-talked-of "$200 queen," which, on examination on April 15, had in the second story 7 frames two-thirds full of larvæ and hatching brood. I never saw anything to equal that in my experience before with bees wintered outside, as mine always are. I did not examine the first story.
>
> Prospects seem good for a crop of white clover. But you know bee-keepers are a hopeful set of fellows, anyhow.

The sight of 7 frames two-thirds full of brood April 15, especially after so severe a March, must have been enough to make one take notice. The remark that the like had not been experienced before with bees wintered outdoors sounds a little as if it would be less remarkable should such a thing occur with cellared bees. It is nothing very strange if it should be found the general impression that brood-rearing begins earlier in the cellar than outdoors. Certainly it is warmer in the cellar, why should not brood-rearing begin there at an earlier date than in the colder situation? Yet observation shows the reverse to be the case. Very many, if not most colonies, will be found to have no sealed brood at the time of taking out of the cellar, while it is nothing strange for outdoor bees in the North to start brood-rearing in February, or even in January.

The explanation may lie in the fact that bees are pretty nearly dormant at a temperature in the neighborhood of 45 degrees, while they are roused to activity by a higher or lower temperature. So the severer cold of the outer air, instead of preventing brood-rearing, may be the very thing that starts it.

Claims of Advertisers and Subscribers

> Mr. Editor :—Can you allow me space to "hold you up to view" to "see yoursels as ithers see ye?" I consider you publishers do not give subscribers a chance—the advertiser gets it all. Of course, he pays for our paper to a large extent, the same as the whiskey sucker pays for the temperance man's hotel accommodation, and we are willing to let him.
>
> Suppose there was one of your queen-bee advertisers sending out queens worth double those of your other advertisers; you know you dare not say so if we made enquiries, so we have to go on buying trash, year after year, till we find the right man to deal with. An advertisement that crept into your paper a month ago is responsible for the above; and on page 251, referring to a new advertiser, you say, "They are all right, as are all others advertising with us, else we would not advertise for them."
>
> Now, what kind of queen is to be expected from that advertiser

who told us he "bought an apiary of common bees and Italianized them last fall?" There are other advertisers who do not always act up to their promises.
Canada.

Evidently "Canada" is under the impression that last fall an apiary of common bees was Italianized, and from this a start is to be made in selling queens the present season. Well, suppose this supposition be correct. Could not the queens be all right? If the colonies were Italianized last fall, the eggs laid by the queens will be the same as if the hives had been occupied by Italians for 10 years, the queens reared from them should be the same, and the drones the same; what is to hinder the queens being all right?

Looking, however, at the advertisement itself, it will be seen that such a supposition is hardly warranted. The statement is made that an apiary of common bees having been purchased and Italianized, *bees* (not queens) can be furnished at reduced prices. That does not preclude the possibility of other bees being used for queen-rearing, even if other bees were any better. As a matter of fact, the purchase of that apiary last fall was by no means a point of beginning with that advertiser. He has been in the field for years in the queen-rearing business, as his advertisements in this Journal in past years testify.

As to the general charge of unfairness to subscribers, our correspondent seems to think it an unfairness that among a number advertising queens for sale—Smith, Brown, Jones, and others—the best of the lot is not sorted out, and subscribers told, "Jones rears the best queens of the lot." Let us see how that would work. Jones could stand it all right, but how about the others? What good would it do them to advertise if their advertisements were nullified by an editorial statement that their queens were inferior to those of Jones? Would they not be forced to cease advertising and leave the field entirely to Jones? Certainly they would if the readers could put faith in the editorial statement.

There would then be the temptation for each one to secure editorial endorsement with the possibility of financial argument in the way of offering an inducement of so many dollars to have it said editorially that this man's goods were better than others. The American Bee Journal hardly desires to be put in the way of such a temptation.

But, really, would it be a good thing for readers generally that one man should have a monopoly of that kind? Nowadays there is not a favorable sentiment in the mind of the public toward monopolies. Besides, it would be a very difficult thing, among a number of good men, to say which is best.

After all, is not the better way to follow the present custom of all reputable periodicals, to give a fair field and no favors to advertisers, only looking out that no one is admitted to the editorial columns who is known to be unworthy?

Miscellaneous News Items

Mr. and Mrs. C. P. Dadant, of Hamilton, Ill., were visitors to Chicago last week. Mr. D. reports good prospects for the season with bees, and so far a satisfactory trade in comb foundation, etc. He has practically retired from active business, preferring to leave it in the competent hands of his sons, who are conducting it in an able and conscientious manner. The Dadants—both father and sons—are experts in their various lines. They are not dreamers or theorists, but practical, successful doers of apicultural things.

* * *

The Apiary of C. G. Chevalier is thus described by its owner:

> I send a photograph of my little apiary, located in the yard of my home at Forest Park, Baltimore, Md. I have 4 hives, 3 of them Danzenbaker, and one home-made, double-walled hive. The hive in the foreground, just back of the tree, has a large double case covered with tar-paper. The other 2 Danzenbaker hives simply have the winter covers, packed with newspapers. I was much afraid the colonies in the latter hives would not survive the winter, but I am glad to say they came through in good shape. This picture was taken the morning of March 16, after the storm of snow and ice. The trees and hedges are covered with a coating of ice, which was sparkling like fairyland in the early morning sun. The path I made to the hives when I went to clean the snow from the entrances can be seen. The houses in the background are those of neighbors.
>
> Three of my colonies are hybrids, and the fourth a red clover Italian. The first 3 I intend to re-queen this spring.
>
> C. G. Chevalier.

* * *

The Wagner Feeding Arrangement, shown on the first page, is described thus by Mr. Wagner:

> I send a photograph of the "Stream Bee-Feeder" that I have used several years. It consists of ½x½ inch grooves in one inch boards, with a 5-gallon can with a screw faucet to thin the stream to suit the number of bees feeding. The 5-gallon jug at the bottom sets in the ground to catch what passes by the bees.
>
> I feed as early as the bees gather pollen. Some carry syrup and some gather pollen, while some carry both. Of course, there is some robbing, and it results in the "survival of the fittest."
>
> F. M. Wagner.

* * *

A Good Kind of Complaint.—Here is what a reader of this Journal wrote us after getting the 32-page number for April 5, 1906:

> Mr. Editor:—Have you no consideration for my feelings? Here comes the American Bee Journal with so many pages that I haven't time to read it all, but filled with such interesting matter that when I get started I can not stop till I have finished it. When I subscribed I expected to get only 16 pages in each number; don't you think it is a little unreasonable to require me to read from 20 to 32 pages?
>
> A Busy Bee-Keeper.

Well, yes, it is a rather large amount of reading, but no one is compelled to read it all—unless he just can't help it. But your complaint is a good one. It is an encouragement to us, even if it does seem "a little unreasonable" to expect any one to read so much good bee-literature.

Sketches of Beedomites

JAMES FITTS WOOD

James F. Wood, widely known as an expert on bees, is dead at his home in North Dana, having been confined to his bed barely one week by pernicious anemia—a disease from which he had long been ailing, and in spite of which he continued his earnest work till near the end. He was born in Leverett, Mass., the son of John and Elizabeth Wood. He was a farmer and bee-keeper, known as an expert on the latter subject. He was for several years a lecturer and demonstrator on bees at the State Agricultural College, Amherst, Mass.

The above item appeared in a Massachusetts paper Feb. 17, 1906, two days after the passing away of a most excellent and esteemed citizen. Born Jan. 11, 1862, his parents removed to Prescott when he was a small boy, and there he lived till 19 years of age, returning thither after a sojourn of some years in Colerain. He was educated in the public schools and in New Salem Academy.

The bent of his mind was early shown. His first bees was a colony of bumble-bees, when he was but 12 years old. Next he "lined" bees with a schoolmate, bringing home an occasional swarm from a hollow tree in the woods. And from that time on he was never without at least a few colonies, which he handled without veil or gloves, and sometimes barefooted, for thus he went, like the boy celebrated in Whittier's verses.

June 26, 1895, this lover of bees and flowers, and all Nature, married the sweet, intelligent woman who survives him—Nettie F. J. Wood. They went to Dana, where he built a good house—a not unsuitable monument to his good judgment and painstaking industry. Last winter their appreciative neighbors, in large numbers, surprised them on the tenth anniversary of their marriage, with numerous little and valued gifts, and a speech to which both responded with ability and grace.

Into the sacredness of their family life I will enter only far enough to say that its loveliness was daily growing more and more lovely. Up to the last of his life Mr. Wood was planning his future work, including the lecture course which he was engaged to give next season at the college, where he had appreciative friends, among them Professors Brooks and Paige, whom I mention as more known to me. He studied and experimented with soils and plants, and was greatly interested in the work of that plant magician—Luther Burbank.

Minds may be classified as scientific and traditional,

may I say ecclesiastical? His was naturally and easily scientific. In traditionalism, metaphysics, ecclesiasticism, and in romance, there is room for mental jugglery; but to know Science the mind must act honestly with itself and with the facts. So science cultivates honest habits of thought, and will have nothing to do with dishonesty, or with tricky thinking. Mr. Wood was naturally adapted to hear and heed her voice, and she loved to speak her secret thoughts to him.

He loved the fields and loved the woods—everything that was Nature—and his open mind absorbed; he knew much more than his friends were aware, imbibing everywhere, and eagerly, new thought. He would listen carefully to those he modestly thought wiser than himself, and learned a thousand times when others would have drawn nothing from the presence of intelligence. It is much to be a good listener, and to winnow well what we hear. This not only stores the mind, but it makes friends. And Mr. Wood made many friends. They crowded his house at the funeral.

He was liberal and progressive in politics and in religion, differing as generously as he did honestly with the more conservative in both. As to the future, he believed no force is lost, it continues in the world, whether in the identical individual or not is less certain, while some say certainly not. The following poem I have written with him in mind:

The firmament of life may be obscured,
Its stars be hidden by the damp of death;
Malarial mists, by time too long endured,
Shall change and flee before Night's changing breath.

Clouds may eclipse the splendor of man's skies,
But life and love are not extinguished so;
Their beauty not with pause and sunset dies,
Though wide diffused in evening's after-glow.

The stars of thought to their high places climb.
The mightier orbs of love, by night or day,
Do beam through all the phases of dark time,
By clouds obscured, but passing not away.

Cloud-shadows fleeing o'er the moon-lit snow,
Untracked by searching morn their noiseless feet,
Or by unfettered winds, which seem to know
The scent of shadow-steps unseen and fleet,
Will pass away with the all-passing dark and night;
Love walks upon the wind above the storms, in light.

New Salem, Mass. PERRY MARSHALL.

Contributed Special Articles

Plain and Chaff Division-Boards

BY G. C. GREINER.

THE easiest and cheapest way to make a division-board is to take a plain board, put a cleat on each end to keep it from warping, and nail a strip of proper dimensions with the necessary projections to rest on the rabbet on top, and it is done. I have quite a number of this kind in use, and for certain purposes they are all that is necessary. But their undesirable features are as follows:

They are hard to remove when once glued fast by the bees; when trying to loosen them, they always detach with a hive-jarring crack; as a rule, they do not fit the hive perfectly; if they fit close, they do not go into the hive freely, but bind and crowd, and if they go in easily, they do not fit tight enough, and in this case, if not handled very carefully, they go down with that detestable "kerchuck" (if I am allowed the expression) which always irritates bees, even the most gentle colonies; and they are not of the right thickness for the purpose a division-board is often used, unless it is made of thick lumber, which is not desirable for various reasons.

To overcome all these objections, I have used for many years, what I call a "Main-frame-chaff-division-board." As the name indicates, its foundation is the main-frame. The bee-spaces on each side are taken up by cushioning the outside of the end-bars. This is done by tacking two or three strips of some thick material (felt-cloth of some worn-out couch-cover is excellent for this purpose), lengthwise on the outside, the first strip being the width of the bar—1 inch; the next a little narrower, say ¾; and the last about ½ inch. The whole is covered with bed-ticking; a strip the length of the end-bar and wide enough to reach around, being wrapped around it and sewed on the inside with a darning-needle and wrapping-twine, as shown in Fig. 1. The sides of the frame are then covered with lumber of such thickness that the aggregate thickness is equal or nearly so (a little scant is better), to the distance of the brood-combs from center to center. I use separator-stuff on one side and ¼-inch lumber on the other, making 1⅜ inches in all.

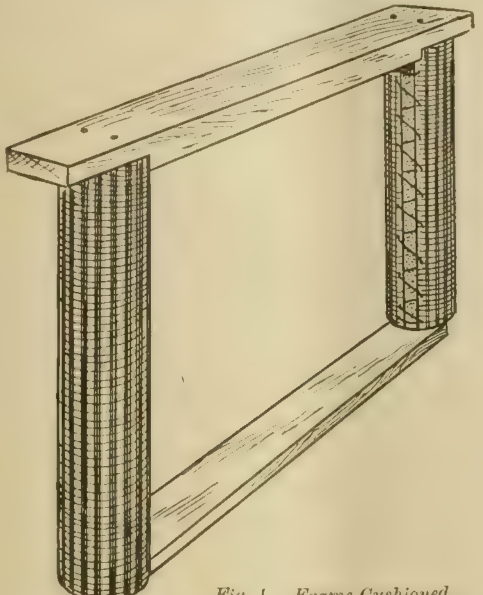

Fig. 1.—Frame Cushioned.

To prevent bending or springing out of this thin lumber when the frame is being filled, an extra end-bar is nailed between the top and bottom-bar, about half way between the end-bars. Before the lumber is nailed to the second side of the frame, the bottom-bar is taken off, which is necessary to leave an opening for the filling. For the latter I use oat or clover chaff, if available; saw-dust will answer, but I think either of the former is better. After the filling is completed, replacing and nailing the bottom-bar finishes the job.

It may seem like a tedious job to make division-boards of this kind, but the advantages in using them are so many, and the satisfaction so enjoyable, that I would not keep bees without them. If the cushioning is made of just the right thickness, the division-board will slide into the hive with very little pressure, and fit perfectly tight. If it should be desirable to move it, after the bees have glued it to the ends of the hive, it does not snap and crack when loosened, like a solid board. The flexibility of the cloth will cause it to loosen gradually with very little prying, and when drawn out of the hive or moved sidewise, as is the case when used as a follower, it does not jar the hive to speak of.

In reducing the capacity of the hive it is more than convenient. Any number of brood-combs can be taken from a hive, and the same number of division-boards will just fill that space again. It is sometimes desirable to reduce a hive one or more combs for wintering; to substitute one of these division-boards on each side has the same

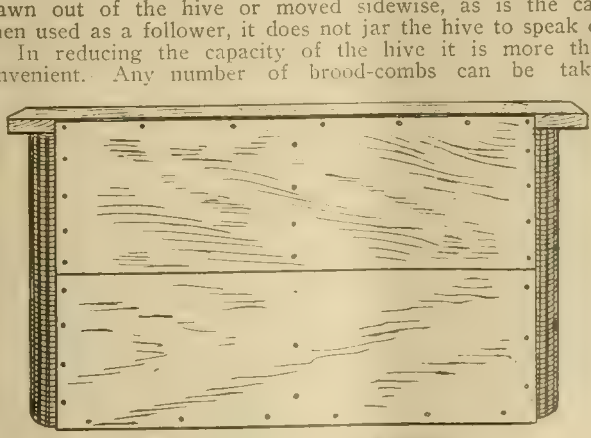

Fig. 2.—Division-Board Finished.

beneficial effect as chaff-packing—in fact, it makes a half-chaff-hive of any single-wall structure.

In queen-rearing time, when starting nuclei, the chaff-division-board forms a very desirable adjunct to the hive. I always use full-sized hives for this purpose, and by the use of this division-board I am enabled to divide a hive into almost air-tight compartments of any size.

La Salle, N. Y.

Using Unfinished Sections as "Baits"

BY G. M. DOOLITTLE.

A CORRESPONDENT writes me thus: "Say, Mr. Doolittle, will you tell us through the columns of the American Bee Journal something about using unfinished sections? I have a lot that are from one-fourth to two-thirds full of honey, partially capped and somewhat candied. Would it be right to put these sections in the supers as 'baits,' at this time of the year, now when I am preparing for next season, then put them on the hives next summer when the bees need them? Would the bees eat it out, or would they fill in the new honey on top of that which was candied, and then cap the whole over?"

The above brings up one of the debatable questions in apiculture, and one where the majority would be on the side of not giving those sections to the bees unless the combs of candied honey were cut out and these replaced with starters or filled with new foundation. And even to this many would object, claiming that it were better to throw away the old sections and begin anew. But it is evident that the correspondent wishes to use those sections with the *comb* in them, and that he wishes to prepare his surplus arrangements at *this time* of the year, so he will be in readiness for the season when it comes next June. And as his mind and desires run along the same path that I travel in, I am going to take the minority side in this matter and tell him just how I use such bait-sections, and, as far as I have ever been able to see, with perfect success.

In the first place, I count up the number of these unfinished sections I may happen to have at the time I begin preparing my supers for the next season, which is generally from the first to the middle of January. My supers, as I use them at present, hold 44 one-pound sections, there being 11 rows of 4 sections each in each super. I now divide the number of unfinished sections I have, by 4, and that will tell me how many rows I will have to use. I then divide the number of rows, which this first division shows, by the number of colonies I expect to have to run for comb honey the coming season (as I wish the first super on each colony to contain bait-sections, that the bees may be enticed into the super as speedily as possible); when this last division will tell me how many of these rows I will have for each colony. To make the matter a little plainer:

Say, I have 600 unfinished sections similar to those told about by the correspondent. I divide these by 4, which gives me 150 rows of 4 each to use. I have, or expect to have, 50 colonies to run for comb honey at the beginning of the honey season for 1906. I now divide the 150 rows by the 50 colonies I expect to have for working in sections, and this tells me that I will have 3 rows of 4 sections each for each of the 50 colonies. I can now go to work intelligently at preparing my supers for the coming season. In filling up the super, I place one row of 4 of these bait-sections next the side of the super, then 4 rows of 4 sections each having starters of foundation in them; or what I prefer still more, these sections filled with *extra thin* foundation; then another row of 4 of the bait-sections; then 4 rows more of the sections filled with foundation; and lastly, at the opposite side of the super from where we commenced, the last 4 bait-sections. In this way I secure the outside sections finished as quickly as any, except the middle row, which are baits, and the whole super is *all* finished when the time comes to take it from the hive.

If I have less sections with baits, so that only 2 rows of 4 each can be used for each hive, then I place these rows thus: Put in first, next to one side of the super, 3 rows of 4 each, of sections with foundation, then one row of the baits; then 3 rows having foundation; one row of baits; and the last 3 rows with foundation. In this way I coax the bees to work as nearly equal all through the super as is possible, and have the earliest possible start made at the work.

If this division of bait-sections gives me only one row of 4 sections each, for each colony worked for section honey, then I put that row in the center of the super, so as to entice the bees to work in the super as soon as may be; but with only so few baits as 4 sections, the outside rows of sections will be slower in their completion than where we have enough so that either 2 or 3 rows can be used.

Now about the honey which is in those sections: Where the cells are capped it is *absolutely necessary* that this capping be broken, if we wish the bees to remove it from the comb. And we certainly wish it removed, especially where it is candied, or of a different color from that which the bees will bring in from the fields in summer. And all of my experience proves that where honey is capped and the cappings broken from any cause, the bees will *always* remove all the honey the cell contains before any more honey is placed in that cell, whether the honey is candied or otherwise. I used to think differently, but the score of trials trying to have the bees recap a few cells on any sections which I had chanced to mar or break the cappings in preparing such finished sections for market, have convinced me that they will not repair such carelessness of mine, till the cells are emptied, cleaned, and refilled again.

And the reason is not long sought for. The cell must be *dry* and polished in order that the honey placed therein be made to assume that concave shape necessary for keeping it in place, and anything that happens to cause any other shape will start the honey to running to an extent which makes it impossible for the bees to overcome the disaster short of its entire removal, and a beginning anew, again, with that cell. Hence, it will be seen at once, that whether it be the bee-keeper, the candying of the honey in the cells, or any other cause, which brings to pass any other position of the liquid in the cell except the one necessary for it to stay in place, the whole must be removed, the cell *cleaned* and *dried,* and work commenced anew, before the cell will hold honey again in the position which the bees desire.

Therefore, I claim that all this talk about a few grains of candied honey sticking to cells, being the sowing of seed to produce the further candying of any honey that is placed in that cell, cannot be aught but fallacious. And I practice what I preach, each year getting my supers ready, baits and all (the same being partially filled with honey, just as the bees left them at the end of the past season), with no other precaution, save the knowledge that the capping to all sealed cells are broken; and I have yet to see wherein this mode of procedure is not as good as having these combs emptied in the fall, except the dripping of the honey to a certain extent, from the cells having the broken cappings. Where the honey is candied in these cells there is scarcely any leakage, and no great amount, in any case, if broken as slightly as possible, by passing a knife flatwise over the cappings. But it is best to put a sheet of paper between each super having such baits in them, so that all drip, if there happens to be any, is held on this paper rather than running down over the sections below.

Borodino, N. Y.

[This article was received and should have appeared several months ago. But on account of a press of other matter it has been deferred. We trust that it is still in time to be of some use for the coming honey season.—EDITOR.]

Queenless Bees in Queen-Rearing

BY HENRY ALLEY.

ON page 251, and under the head, "How Can We Rear Better Queens?" is an article from A. K. Ferris. I read this article with much interest, as all such questions have attracted my attention for the past 45 years. The first point that Mr. Ferris tries to make, namely, the selection of the breeding queen, is not new to me, as I had that very thing under consideration more that 40 years ago. But here is something new:

"Do not breed from a queen whose bees will allow brood to starve with capped honey in the hive." Can any reader of this paper say that he ever had an experience of that kind? I not only would not use such a mother for a breeder, but would quickly pinch the head of such a worthless queen. If Mr. Ferris has had such a queen as that in his apiary, would it not interest all the readers to know whether she was reared in a colony that had cast a swarm, or by queenless bees, or what the conditions were that could produce such a queen?

I have been a bee-keeper nearly half a century, but never knew such a state of things to exist as Mr. Ferris mentions in his article. The idea of brood starving when bees had plenty of stores, and in a normal condition, is amazing, if true.

Mr. Ferris presents some good things in his article, but they are not new to the readers of the American Bee Journal, as all these things can be found in back numbers many, many years ago, and written by the person whose method of queen-rearing he criticises.

Mr. Ferris gives his experience in rearing queens by two methods. One of the methods employed was that of rearing them by queenless bees. He says he failed to save even 1 queen out of 35 cells he gave to as many queenless colonies; and that the queen-cells reared by another method were all accepted.

What does this show? There is nothing to indicate that the destruction of the cells was caused by the way they were built. If anything is proven, it is the fact that Mr. F. does not understand the queenless method of producing queen-cells. His failure to rear good queens should not be attributed to the method used. Up to within 10 years, all the queens reared the world over were reared by queenless bees, and such queens were always satisfactory. We can give accounts of hundreds of queens whose bees stored as much honey as queens reared by any process known to experienced bee-keepers. We have had queens reared by queenless bees that filled many combs with brood, but none ever filled 14 Langstroth frames, as Mr. F. says his queens will do. Such queens can not be found in my yard.

I want to inform the bee-keepers of the world that no bees, queenless or otherwise, ever destroy, or tear down queen-cells that contain *live* queens. A colony having a queen (either a virgin or fertile one) will not destroy a queen-cell until a queen first stings the imprisoned or embryo queen; then the worker-bees complete the destruction of the cell. The 35 cells, which Mr. F. says were not accepted, did not contain one live queen when given to the bees. There must have been something decidedly wrong in the way that those cells were built, or were handled when introduced to bees.

Can't rear good queens by queenless bees! They can be so reared. Mr. Doolittle will say the same; and any practical bee-keeper on earth will say that the best of queens are reared by queenless bees.

By the way, what is the Doolittle system of rearing queens? A few years ago when writing E. R. Root, I remarked that I could not get such good and satisfactory queens as Mr. D. does by rearing them in or over a colony while a queen is present. The next time I heard from Mr. Root, he said Mr. D. did not rear queens in that way. Now, Mr. F. says he uses the Doolittle plan, as he does not like the queenless method. Well, where are we? It really seems to me that bees must be used to rear queens by any method.

I said in this Journal a long time ago that good queens can be reared in a colony while a fertile queen is present, only when the bees are gathering honey from natural sources, but at *no other time*, can as good queens be reared as by the queenless process.

As a matter of fact, I first gave to the public through the columns of this paper a method for rearing queens in a colony having a laying queen. After I had made it public, I found that G. M. Doolittle, of New York, and Dr. G. L. Tinker, of Ohio, had been experimenting along the same lines.

I have stated in these columns how queens can be reared in the brood-chamber while a queen was present and the cells unprotected from the attack of the queen. I have also shown how the same thing can be done by protecting the cells from being attacked and destroyed by the queen while the bees were completing them. All of these things, and many others, I have published in years past and given to the public. But not till Mr. Ferris' article appeared had I ever seen the queenless method of rearing queens criticised by any one.

It seems that Mr. F. did have some queens reared by the queenless or cell-cup process; even though the 35 cells were destroyed, and that queens reared by the Alley plan and the Doolittle plan, all in the same hive, when shown strangers to bees they saw the difference.

Let me tell Mr. F. what some experts with bees have said of queens they have seen when visiting my apiary. A. C. Miller, of Rhode Island, has made an annual visit to my apiary for many years. I always show him queen-cells in all stages, and processes of construction, as I do all who come here. Mr. Miller always says that the virgin queens are very large, and as fine as he ever saw. F. H. Farmer, one of the largest bee-owners in Massachusetts, is another caller here who admires the size and beauty of the queens shown him, and says that my virgin queens are as large as most of the laying queens sent out by some dealers.

When queenless bees are used for cell-building they should be supplied with eggs within 6 or 8 hours thereafter. My method for rearing queens by queenless bees, or rather for having queen-cells built from cell-cups, is this:

I select the strongest colony in the yard—one having a prolific queen and at least 8 frames of brood. (A colony having an old queen is always preferred, as bees from such a queen build the finest cells.) This colony is taken into the operating room, and I then treat the bees to tobacco-smoke in small doses, and drum on the hives to cause the bees to fill their honey-sacs, and when they have done so, and show that the tobacco has completely subdued them, I remove the cover from the hive; then take out each frame separately, brushing the bees from the combs into a box having plenty of ventilation. The queen is found and caged, and the bees left queenless for 6 or 8 hours. The combs are replaced in the hive they were taken from, and other bees (queenless ones, if at hand) are put into the hive and a fertile queen introduced.

The colony just made queenless has from 60,000 to 75,000 bees, mostly young ones. Twelve days after the eggs are given the bees, I have as fine a batch of large, golden queens as Mr. F. could desire to see. The eggs given the bees from which to construct cell-cups had been deposited in drawn foundation 3 days, or 72 hours before the colony was made queenless. If Mr. Ferris had proceeded in the above way, he would have had completed queen-cells that can not be equalled by any other method of rearing queens.

The one point I wish to emphasize is, that bees, long in a queenless condition, will not rear good queens. This seems to have been the trouble with Mr. F.'s cells. The right thing must be done at the right moment. It is also evident that Mr. F. failed by not strictly following the method which I have given for rearing queens.

Permit me to give just one illustration as to whether queens reared by queenless bees are of any value or not. In 1901, Mrs. M. M. Ball, of New York, purchased a queen from me. The queen was shipped as hundreds of others are sent, and I never expected to hear anything from the transaction. The next year Mrs. B. wrote me this:

"I owe you a debt of gratitude for the fine queen you sent me. Had it not been for that queen I would have had no honey. This one colony stored 125 pounds in sections, while no other bees in town stored any surplus at all."

Now here comes the best part of that testimonial: In trying to purchase that queen from Mrs. B. we got pretty well acquainted, and the result was that Mrs. Ball is now Mrs. Alley. Now, was not that a good queen? I leave it to Mr. Ferris to say.

Finally, I must say that Mr. Ferris has not made out a good case. Considering the fact that we all have had nearly as good queens as Mr. Ferris has described, I must say that the question, "How to rear better queens," is still unsolved, so far as Mr. F. is concerned. I have claimed that I can rear better queens by the queenless process than can be reared by natural swarming.

Editor Hutchinson says just as good queens can be reared by queenless bees as natural ones, but he hardly thinks *better* queens can be so reared.

I still assert that I can rear better queens by queenless bees than can be obtained by the natural process. At any rate, I shall continue to rear queens in the same way that I have since the year 1860, so long as I have good success.

Mr. F. asserts that he can rear queens that will fill 14 Langstroth frames with brood! Did Mr. F. stop to consider this statement before he made it? Let us see what a queen must do in order to fill the combs in 14 Langstroth frames in 21 days.

A Langstroth frame 9x17 inches, inside measurement, contains 153 inches. There are 52 cells to the inch of comb. In 14 frames there would be 111,384 cells. Sixty thousand to 75,000 bees is considered a very large colony. To fill 14 frames, a queen must deposit 5,304 eggs each 24 hours for 21 days. Does any one suppose that a queen can be found that will lay so many eggs in one day?

I will pay $25 for a pure Italian queen that will fill only 12 frames with brood in 21 days, and give an order for

25 more queens at $10 each. This offer is open to anyone who can supply queens of the kind Mr. F. says he has.

I will not take the statement made by Mr. F. as he makes it. We all know that only a few of the combs in the middle of the brood-chamber are filled solid with brood, while the combs on either side of the brood-nest are never full.

I do not appear in defense of my methods of queen-rearing. They do not need it. Those methods have been employed over 50 years, and have stood the test well, and thousands of bee-keepers have made them a success.

Essex Co., Mass.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Ontario's Foul Brood Law

It will be seen by the enclosed "Bill" that the inspection of apiaries is given entirely into the hands of the Minister of Agriculture. This does away with the see-saw work we have had so much of for years, and is, I think, a good move. Formerly, the President of the Ontario Bee-Keepers' Association was supposed to direct the inspector, but had no control over his pay, which came from the Department. It was the sense of the last convention that more inspectors were needed, and now the Minister, who keeps in close touch with the bee-keepers, will appoint, direct and pay what are needed. Note that Section 4 provides for transfer of box-hive colonies.

The following is a copy of the Act referred to above:

BILL

An Act for the Suppression of Foul Brood Among Bees.

His Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

1. This Act may be known as "*The Foul Brood Act.*"

2. The Lieutenant-Governor, in Council upon the recommendation of the Minister of Agriculture, may from time to time appoint one of more Inspectors of Apiaries to enforce this Act, and the Inspector shall, if so required, produce the certificate of his appointment on entering upon any premises in the discharge of his duties. And the Minister shall instruct and control each Inspector in the carrying out of the provisions of this Act. The remuneration to be paid to any Inspector under this Act shall be determined by order of the Lieutenant-Governor in Council.

3. The Inspector shall, whenever so directed by the Minister of Agriculture, visit without unnecessary delay any locality in the Province of Ontario, and there examine any apiary or apiaries to which the said Minister may direct him, and ascertain whether or not the disease known as "foul brood" exists in such apiary or apiaries, and wherever the said Inspector is satisfied of the existence of foul brood in its virulent or malignant type, it shall be the duty of the Inspector to order all colonies so affected, together with the hives occupied by them, and the contents of such hives, and all tainted appurtenances that can not be disinfected, to be immediately destroyed by fire under the personal direction and superintendence of the said Inspector; but where the Inspector, who shall be the sole judge thereof, is satisfied that the disease exists, but only in milder types and in its incipient stages, and is being or may be treated successfully, and the Inspector has reason to believe that it may be entirely cured, then the Inspector may, in his discretion, omit to destroy, or order the destruction, of the colonies and hives in which the disease exists. 53 V., c. 66, s. 3.

4. The Inspector shall have full power, in his discretion, to order any owner or possessor of bees dwelling in box-hives, in apiaries where the disease exists (being mere boxes without frames), to transfer such bees to movable-frame hives within a specified time, and in default of such transfer, the Inspector may destroy, or order the destruction of, such box-hives and the bees dwelling therein. 53 V., c. 66, s. 4.

5. Any owner or possesor of diseased colonies of bees, or of any infested appliances for bee-keeping, who knowingly sells or barters or gives away such diseased colonies or infected appliances, shall on conviction thereof, before any Justice of the Peace, be liable to a fine of not less than $50, or more than $400, or to imprisonment for any term not exceeding two months. 53 V., c. 66, s. 5.

6. Any person whose bees have been destroyed or treated for foul brood, who sells or offers for sale any bees, hives or appurtenances of any kind, after such destruction or treatment, and before being authorized by the Inspector so to do, or who exposes in his bee-yard or elsewhere, any infected comb, honey, or other infected thing, or conceals the fact that said disease exists among his bees, shall, on conviction before a Justice of the Peace, be liable to a fine of not less than $20, and not more than $50, or to imprisonment for a term not exceeding two months, and not less than one month. 53 V., c. 66, s. 6.

7. Any owner or possessor or bees who refuses to allow the Inspector to freely examine said bees, or the premises in which they are kept, or who refuses to destroy the infected bees and appurtenances, or to permit them to be destroyed when so directed by the Inspector, may, on the complaint of the Inspector, be summoned before a Justice of the Peace, and, on conviction, shall be liable to a fine of not less than $25, and not more than $50, for the first offence, and not less than $50, and not more than $100, for the second and any subsequent offence, and the said Justice of the Peace shall make an order directing the said owner and possessor forthwith to carry out the directions of the Inspector. 53 V., c. 66, s. 7.

8. Where an owner or possessor of bees disobeys the directions of the said Inspector, or offers resistance to, or obstructs the said Inspector, a Justice of the Peace may, upon the complaint of the said Inspector, cause a sufficient number of special constables to be sworn in, and such special constables shall, under the directions of the Inspector, proceed to the premises of such owner or possessor and assist the Inspector to seize all the diseased colonies and infected appurtenances and burn them forthwith, and if necessary the said Inspector or constables may arrest the said owner or possessor and bring him before a Justice of the Peace to be dealt with according to the provisions of the preceding section of this Act. 53 V., c. 66, s. 8.

9. Before proceeding against any person before a Justice of the Peace, the said Inspector shall read over to such person the provisions of this Act, or shall cause a copy thereof to be delivered to such person. 53 V., c. 66, s. 9.

10. Every bee-keeper or other person who is aware of the existence of foul brood, either in his own apiary or elsewhere, shall immediately *notify the Minister* of the existence of such disease, and in default of so doing shall, on summary conviction before a Justice of the Peace, be liable to a fine of $5 and costs. 53 V., c. 66, s. 10.

11. Each Inspector shall report to the Minister as to the inspection of any apiary in such form and manner as the Minister may direct, and all reports shall be filed in the Department of Agriculture, and shall be made public as the Minister may direct, or upon order of the Legislative Assembly.

12. Chapter 283 of the Revised Statutes of Ontario, 1897, entitled, *An Act for the Suppression of Foul Brood Among Bees* is repealed.

Giving Cellared Bees a Winter Flight

Mr. Pettit:—The last time I saw you we were talking on putting bees from the cellar on the summer stands on a warm day for a cleansing flight during the winter time, which I did about the middle of February. Up till the time we put our colonies out for a flight they seemed particularly restless. The fault was, undoubtedly, in the temperature being too warm for them in the cellar, and it was impossible to lower it on account of the warm winter. When we took the bees from the cellar in February none had spotted their hives. We left them out for only one day, and then returned them to the cellar, where they remained in about the same restless condition up till April 1, and then none had spotted their hives. As soon as they quited down I examined them, and, quite to my surprise, they had come through the winter in good, average condition, with the loss of one colony. They had just commenced brood-rearing.

I never had a larger consumption of stores. I gave them more honey per colony last season than ever before, and some would have died from starvation had I not supplied them. Now, would that not indicate that if they had consumed so much honey through the winter without the flight, they would have contracted dysentery and brood-rearing? I don't think it would do any good to give them a winter flight unless they were particularly uneasy in the cellar, and then get them back into the cellar again as soon as they cluster well. It might be a damage to allow them a second day's flight, for the first would give them a chance to clean up, and that is all they need; while the second day would be a tax on their vitality, and would cause brood-rearing, etc. Chas. E. Arnold.

Bealton, Ont., May 10.

Prospects Good So Far

I had 5 colonies in the spring of 1905, and in the fall 10, but I doubled back to 7, with which I began the winter. I lost one in winter, as it was short of stores. The remaining 6 are in good condition. Prospects are good so far.

Wroxeter, Ont., May 1. J. Brethauer.

Handy Tool-Holder.—We find we are short of the part of this Tool-Holder which has on it the cogs or ratchet by which the blade is raised or lowered when grinding. We need to have some castings made of that part. If any one of our readers who have one of these Tool-Holders will kindly write us, so we can learn who has one of them, we will consider it a very great favor. Address the office of the American Bee Journal.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

Protection Against Bee-Stings—Black an Irritator

A lady was calling on me this week, and as she owns quite a number of colonies of bees, we naturally began talking about bees. These same bees were left to her by a favorite nephew at his death. They having been a source of profit to him, doing much towards helping him through college, he hoped they might do as much for her. Now, the only knowledge she has of bees is the knowledge gained by the slight help she gave her nephew with them during his lifetime.

The only things she tries to do with them is to hive the swarms and take care of the honey. She said, "I am afraid I will never make a success of bee-keeping, as I can never quite overcome my fear of them. Sometimes while I am working with them I get so interested in my work that I forget to be nervous about their stinging, and really get along nicely. In fact, as a usual thing I do not get very many stings."

I said, "Why don't you protect yourself against stings by dressing so that they can't get a chance to sting you, until you get over your feeling of nervousness while working with them?"

She gave a little laugh, and said, "I always wear a veil, but the only time I ever tried to protect my hands I did not succeed very well. I had always worked with my hands bare, but, one day, feeling particularly timid about taking off some honey that must be taken off, I drew a pair of stocking legs on my arms, letting them come well down over my hands, leaving just the tips of my fingers exposed, and went to the apiary feeling much braver. But, alas, those stocking legs seemed to make those bees just furious. They covered my hands and arms, burrowing themselves into the stockings, and stinging—well, I never had so many stings before in my life. I can't imagine what made them act so, for I had handled them just as carefully as I ever did, but I have not tried to wear anything on my hands since."

I said, "What color were those stockings?" She looked a little surprised, but replied that they were black. She looked still more surprised when I told her that because they were *black* was the reason the bees were so furious at them, and had they been woolen they would have been still more furious. I advised her to try some white stockings and see if results were not different. (This in spite of the fact that some people think it all nonsense that bees do not like black.)

One thing that surprised me was that she entertained the idea that a cool day was much better than a warm one to work with bees, and she attributed the temper of those bees to the fact that it was a very warm day when she took off that honey!

◆

Sweet Clover—White and Yellow

And so Dr. Miller tells another inquirer that sweet clover ought to be advertised in the American Bee Journal! Surely it should be, but that is poor comfort for those who want it—if it is not so advertised.

For myself, it gives me a sort of guilty feeling—in that I have sweet clover in abundance, yet fail to gather the seed. The trouble is, there is so much to be done; then that securing of the seed in any considerable quantity is neglected. It yields a lavish lot of seed, but if it is not gathered at the right time this soon falls to the ground.

I have, at times, cut patches of it with a scythe, and piled it up to be thrashed with a broom, but I have none on hand a this writing. Bushels of it were permitted to fall to the ground last year. I would like to promise to have seed on hand by another spring, but I can't be sure of that now.

"There is a time for everything that is done under the sun," but I try in vain, sometimes, to get time for the things I don't get done. But, no doubt, if there is a demand for sweet clover seed, some one will cater to it.

There are many with a greater acreage of it than I have. I would like to say that those who want it would do well to get in mind what variety they want. I had the white kind for several years before I got the yellow, but the latter is the greatest boon to me here, as I need something for the bees to work on through June. This I find in yellow sweet clover. The white does not bloom until July.

All this has been said before, but it will bear repeating.

Custer Co., Nebr. (Mrs.) A. L. Amos.

In Northern Illinois it is doubtful whether there would often be any advantage in the yellow sweet clover over the white, as the white sweet clover is usually in bloom before the white clover ceases to yield, so there is generally no dearth. But in other localities where there is likely to be a dearth, the yellow sweet clover would be a boon.

The following is what A. I. Root says in Gleanings:

> The constant call for sweet clover seed of every kind is coming in from every direction in a way we never knew it before. It seems that the world generally is beginning to discover that none of the clovers should ever be called noxious weeds. If there are horses or cattle anywhere that have not learned to eat tender sweet clover when it first comes up, they are certainly lacking in education.

◆

Outlook for a Good Crop

My bees wintered fairly well, losing about 15 percent of the colonies. The outlook is for a good honey crop here.

Mrs. Fannie J. Randall.

Ft. Collins, Colo., May 14.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Drones and Swarming

Do drones, when in extra numbers, cause more swarming? Does excessive swarming cause the rearing of more drones? Is a colony that is dreadfully overrun with drones tolerably sure *not* to swarm? Queer if we should have to answer all three questions in the affirmative. Without wishing to drive any stake or say anything "sassy," I have my doubts about the first question. As to the third question, it may be mainly a matter of location and honey-flow. *Might* always feel too poor to rear young queens when burdened with such a lot of non-paying boarders—except in a good location with strong and steady flows. With the population nearly half drones I shouldn't feel quite sure that the best and longest flows would start swarms. This anent C. P. Dadant, on page 298.

Covers of the Latham Home-Made Hives

I don't put in the sub-heads in the Afterthoughts, Mr. Latham. Go for the Boss about that naughty hyphen that contrived to tell a depreciatory lie about your hives.

As to the inquiry, I suppose I must have been thinking that lots of roof-cracks, made good by good paper, was the point that was up, and that it might allow large variation in other respects. Yes, some of my roofs are dreadfully weighted down with bricks and stones (and army-pans filled with fragments). Every winter they go in loaded heavier than before; and every winter a lot of them get away. On the other hand, half my roofs are scarcely ever known to fly away, and those I trust without any weights. Then there's another lot that are "mighty onsartin," and I honor the doubt to the extent of a couple of bricks. Page 299.

Advices to Bee-Keeping Beginners

In directions to those who are going to fail, Doolittle, in his article for beginners, gets in a pretty good one. Much nicer to sink $40 than $400. So say we all of us. And quite a bit of fun can be had in throwing away $40 if you scatter it right.

And so for the beginner to skip the bee-books and read the bee-papers is like feeding the baby corned beef and fried potatoes—dead baby very soon: SACRED to the MEMORY of Billy Beeman, who took the fever and—got well. To make sure that the patient won't get well, Mr. D. sagely advises the bee-babe to make the hives for his first year's swarms. May not be any great amount of cash profit in it, but the practical wisdom of the thing struck me decidedly—do him piles of good, confirm him in his chosen craft, and "build him up." But an awful "per contra" dawns upon me just now, however. It may also set him to inventing a brand-new hive, long before he knows the difference between pennies and pounds in the ends to be secured. That is one of the direst of "complications" which the disease known as bee-fever is wont to develop. Page 296.

Sad that So Few Read Bee-Papers—Baby Nuclei

Twenty bee-men in Chatsworth, Calif., and only one takes a bee-paper. Sad—and the saddest of it is that it's not much worse than other places. What shall we say to these 19 men? Good to be self-reliant; good to lay your own plans and conquer your own difficulties; but not good for one man to cut entirely loose from the accumulated wisdom of mankind. The most brilliant and self-contained man in the world *needs to know when he is in the beaten track and when he is out of it.* He can not well know this unless he reads what the rest of the world is doing. If he didn't adopt one single idea from the paper, the paper would pay him by helping him direct and judge himself.

And I note with interest that C. W. Dayton abandons the use of the baby nucleus after having used 50 of them for a season. Page 297.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

The Texas Mesquite

Through the cool, gentle breeze, this fine April morning,
I hear quite distinctly the bees humming sweet,
And find that the bloom is hastily adorning
The long, thorny limbs of the Texas Mesquite,

With her mantle of gold bemixed with green foliage
That swings in the wind our coming to greet;
Our far-away cousins have no worthy knowledge
Of the exquisite beauty of the Texas Mesquite.

While the bees in the North are yet in their cellars,
Or perhaps even worse—all buried in sleet—
Our busy little bees are hiding their smellers
In the sweat, golden bloom of the Texas Mesquite.

In the warm month of June we again will be favored
With another bloom crop that can not be beat;
And the warm, gentle breeze will be then highly flavored
With the bloom we admire on the Texas Mesquite.

Sabinal, Tex. GRANT ANDERSON.

Holy Land or Palestine Bees

MR. LOUIS H. SCHOLL—

Dear Sir:—I am a New York bee-keeper, but at present am keeping bees here in the South. I have a notion to try the Holy Land or Palestine bees here, but do not care to bother with them unless they are decidedly superior to the Italians for extracted honey. I think, perhaps, you have seen them in other yards, and I wish you would give me your opinion and advice about them. Also, where to get the best stock of queens. I think you are just the one to advise me about this, and I will appreciate it.

I will also be glad to have you inform me if you know of any one having an extra prolific and good strain of Italians. I do not want to get cheap-reared queens from any one. My experience with buying "baby nucleus" queens is, that I would scarcely take them as a gift.

In this section the bees gather some pollen in January, and the honey season is from about March 10 until June. After that I think the bees get little more than enough for a living, usually.

Wayne Co., Ga., April 14. CHAS. L. TODD.

After trying, during my 15 years of bee-keeping, nearly every race of bees—the common Germans or blacks, 3-banded Italians (both imported and American-bred stock), golden or 5-banded Italians, Holy Lands or Palestines, Cyprians, Carniolans and Caucasians, in their purity, and many crosses of different races—I have *almost* decided upon the "good, old 3-banded Italians," *of a good honey-gathering strain*, for all my yards. I say "almost," because I am not sure but there might possibly be some suitable *cross*, or, better still, a *hybrid*, that would prove superior to the Italians in their purity.

Holy Lands have many good qualities, but the "stinging qualities" of most of the strains that have come under my observation have been disagreeable enough to overbalance their good qualities that they possess over some other races. It is true that some of our foremost bee-keepers are very successful with them, in securing large crops of surplus honey. And some of these claim this race to be very gentle, and that very few stings are received in handling them. Yet these apiaries, where only Holy Land bees are kept, are few, and the race of bees does not seem ever to become popular.

This much is certain: In the hive manipulations with Holy Lands much more care must be exercised than with most other races. Less smoke must be used, and the operator must work "gently" and carefully. Jars and sudden jolts, and also the use of too much smoke, will result in "a volley of live bullets" from the hive as if shot from—well, a wide-mouthed cannon. And once these bees become irritated in this way, it is hard to do anything with them. The use of more smoke only makes matters worse, and it results, sometimes, in all the bees of the colony taking wing and filling the air—and other things—with infuriated, stinging bees. These are, of course, rather extreme cases, still such have been quite numerous under my observations.

While, if carefully and quietly handled, and with little smoke, they are very peaceable, yet, as a usual thing, they are so "nervous" that the least jar, or the dropping of a frame or the hive-tool, etc., will send them out on warfare.

Several crosses have been tried in my yards of Holy Land bees. The Holy Land queens are very prolific in egg-laying, and, used as mothers of a colony, mated to golden Italian drones, good results were obtained in several cases. The cross resulted in larger bees than the Holy Land bees—more the size of the Italians—and these proved to be good honey-gatherers. I believe that by careful breeding a hybrid might be produced that would be better than the Holy Lands, or Italians either, in their purity. A simple cross between two races does not seem, in my mind, to be efficient enough. A well-bred hybrid would result in a more stable reproduction of their type. The off-spring would not vary so much as with simple crosses.

There are several queen-breeders who advertise good strains of Italian queens, and there are some of these who use the "baby-nucleus-box method," and produce as good queens as can be produced by any method. I can not see why there should be any objection to mating queens in such boxes, *provided*, of course, that the queens are *not* left in these small boxes too long. A young laying queen should be able to "expand" herself in her egg-laying, and thus develop herself in it.

"Crosses" and "Hybrid" Bees

Here is another fellow in favor of using the terms "cross" and "hybrid" in the right sense, as per R. F. Holtermann, page 341. It will be well to bear this in mind, and to begin a reform at once. The bee-paper editors can do much in this matter, and so also our careful writers of beedom.

The Bee-Keeper's Fun

Are you having a "good time," and are you enjoying yourself? The bee-keeper, with his outdoor work, his sunshine, bees, flowers, and good exercise during the sunny, balmy days when one longs to be out-of-doors, should be a happy creature indeed. During rainy and unfavorable weather for out-of-door work, he can have and enjoy comforts of home life, read his bee-papers, magazines and other papers; or, if it is during the busy season, his shop will be his favorite retreat. Compare the bee-keeper's life with that of the trudging mass who are "on the go" from early morning until late at night, rain or shine!

This may not be writing "about bees" exactly, but it seems well to be reminded of our good fortunes sometimes, *because* we forget, you know. If you are not enjoying a bee-keeper's life, find out why you are not and try to remedy the matter. There are some who make it their business to smile, and such smiles make them more successful and happy. Did you ever notice how a jolly fellow always seems to get along pretty well? I have, and have tried it myself. Now *you* try it!

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Will Bees Swarm Under These Conditions?

Will bees swarm when a young queen goes out to mate in a honey-flow, the old queen having been taken away and all queen-cells cut out but one? IOWA.

ANSWER.—I don't know. G. M. Doolittle says no; others say yes.

* * *

All-Zinc or Wood-Zinc Excluder?

Which is the better excluder to use in extracting—all-zinc or wood-zinc? NEW YORK.

ANSWER.—Opinions differ. All-zinc gives larger opening between the two stories, but either seems to give abundant passage for the bees. The wood-zinc keeps proper spaces above and below it more rigidly, but one or more ¼-inch strips laid on top-bars seems to answer with the other. The all zinc is not so fragile as the other.

* * *

Serradella as a Honey-Plant

Is serradella a good honey-plant? If once sown in waste-places will it seed itself afterwards? Is there any danger of it becoming a troublesome weed? When should the seed be sown? PENN.

ANSWER.—I can not answer your questions. I have seen serradella mentioned as a honey-plant in bee-papers from across the sea, but I think never in any published on this side. It is "a Portuguese species of bird's-foot clover (*Ornithopus sativus*), cultivated for fodder in Britain and on the continent."

* * *

Wiring Frames—When to Do Spring Bee-Work

1. What do you think of using wire from baled hay or straw in place of your wooden splints in brood-frames? Pierce the bottom-bar with 4 holes, slip the wire through into the groove in the top-bar, and fasten with melted wax from a Van Deusen wax-tube?

2. My bees rob so now that I have not overhauled them yet. What time in the spring do you work with yours? IOWA.

ANSWERS.—1. Such heavy wire would be objectionable. Only very fine wire is used in wiring frames.

2. The first day that is warm enough for bees to fly freely after they have been long enough out of the cellar to have brood-rearing well started, an examination is made to see that each colony has a good queen, judging by the brood, and generally the queen is found at the same time to see that she is clipped. This examination may be in April, or it may be in May. Earlier than this, in this latitude, it is not best to open a hive unless there is suspicion that something is wrong, as a shortage of stores.

* * *

Preventing Swarming—Removing Queen-Cells—Introducing Queens—Mold in Hives in Winter

1. Which is the easiest way to prevent bees from swarming?

2. Which is the easiest way to take out the queen-cells, by taking them right out of the combs, or by using a queen-trap?

3. If I buy an Italian queen, do I have to destroy the old queen before I put the new one in?

4. What makes the hives mold inside in the winter? MINNESOTA.

ANSWERS.—1. I don't know. I wish I did. The way that is probably at present practised more than any other is shaking swarms; that is, taking away all brood a little before swarming is likely to occur. G. M. Doolittle says he has discovered a way that he seems to think is better, and he will shortly publish it. C. Davenport says he has a successful plan that requires no shaking of combs nor finding of queens. He has not yet made it known, but doubtless will do so in time for this season's work, for if we may judge by his previous writings, he is not the kind of man publicly to mention such a thing only to keep it a secret.

2. I suppose you mean to ask whether it is easier to cut out queen-cells or to leave them untouched, and then trap the young queens when they attempt to fly out. The trap is the easier of the two, but neither way is a reliable way of preventing swarming. The trap, however, is used by some to catch the old queen when she issues with a prime swarm, and the plan works well for those who allow their bees to swarm, but do not wish to be all the time on the watch for swarms.

3. Usually the old queen is removed at the time the new queen is given, the latter being given in a cage so arranged that the bees will liberate the queen by eating through the plug of candy. There is probably greater safety in the Abbott plan of putting the caged queen into the hive 2 or 3 days before the old one is removed, not allowing the bees to liberate the new one till after the removal of the old one.

4. The same that makes mold anywhere—a sort of vegetable growth favored by dampness and darkness.

* * *

Painting Bottom-Boards—Corkdust Cushions—Best Comb-Honey Hive—Best Queen-Excluding Honey-Board

1. Is it a good idea to paint both the inside and outside of bottom-boards?

2. I want to make some cushions for winter protection. Is the cork sawdust that usually comes with California grapes good for the purpose? If so, how thick shall I make them?

3. Which would be the best way to make them, by sewing the top and bottom together, or sewing a strip 2 or 3 inches wide between the two, so that when they are stuffed they will look like small mattresses?

4. Which do you think would produce the most comb honey, the 10-frame or the 8-frame Hoffman, or the Danzenbaker, all of them using Danzenbaker supers?

5. In producing extracted honey, which queen-excluding honey-board do you consider the best? OHIO.

ANSWERS.—1. It is not a common practise, but it ought to make them last longer.

2. Corkdust is one of the best. A thickness of 1½ or 2 inches is probably enough.

3. Likely the mattress plan is the better.

4. With colonies of the same strength, you would not be likely to find any difference.

5. There is little choice as to the kind of excluders. Although most producers of extracted honey use queen-excluders, it is only fair to say that so good bee-keepers as the Dadants do not use them.

* * *

Gasoline Treatment for Wax-Worms—Dark and Light Colored Clothing for Bee-Work

1. I have 85 brood-frames that I did not use last season. I had them in a corncrib all last summer in the dry, strung on a frame. In September I put them in the workshop, overhead on frames, and was away from home 3 months, and when I returned I found the wax-worm had worked on them all through this time. I had them 1½ inches apart. I do not want to lose them. I saw in the Bee Journal, some time ago, where some one used gasoline, and it put the worms to sleep, never to wake up. Do you think the scent of gasoline in combs will annoy the bees so they won't accept them when I hive bees on those combs?

2. What is there about the color of clothes to make the bees quiet when handling them? IOWA.

ANSWERS.—1. Unless you have a special brand of wax-worms different from all others, you may rely upon the gasoline treatment. Look the combs over, and wherever you see the least show of their webs, give a little squirt, and that ends it. In a very short time the gasoline evaporates so it will be safe to give the combs to bees.—[See page 328 for full directions for giving the gasoline treatment.—EDITOR.]

2. I don't know why it is; I only know the fact, that cross bees are not so likely to sting one with light as with dark clothing. I have worn a good many different pairs of mason's or painter's white overalls for the sake of avoiding stings. I don't think white clothing particularly appropriate to my style of beauty, and in going through town to the out-apiary, I'm not fond of appearing on the streets arrayed in white, but I'd rather do that than to take the increased number of stings with dark clothing. But, mind you, I get all the stings I care for, even with white clothing. If bees are cross enough, they'll sting through the whitest clothing.

* * *

Frames of Buckwheat Honey for Spring Feeding—Preventing Increase

I use the Danzenbaker hive, and run for comb honey. I winter my bees in a single brood-body out-of-doors.

1. Now, how would it be next fall, when the buckwheat honey-flow is on, to let the bees fill a lot of shallow frames such as are used in the Danzenbaker super, then put them away until next spring, and when it warms up, and the bees begin to carry in pollen (or before, if they need it), put a super filled with shallow frames of honey on each colony—strong and weak alike—and leave it there until a heavy honey-flow sets in, then raise it up, put a super filled with sections and foundation under, put on a bee-escape, get the bees all down out of the shallow frames, and put them away until next year, if they are more

than half full; if not, let the bees fill them again with dark or mixed honey for the next year? I would do this to do away with spring feeding, and still keep brood-rearing on the move.

2. Can you suggest a better way, or anything further concerning this plan, or do you think it would be better to put the frames of honey on in the fall, before packing for winter?

3. I want to let my bees swarm naturally this year, hive them on the old stand, and get the bees from the parent colony into the new swarm as fast as they hatch out, so I will have no increase. How is this done? I have heard something about setting the old hive close to the new swarm and turning it in a different direction, but never have had it explained to me. Nor do my bee-books explain it. I would like very much to know the best way to do this, and what to do with young queens or queen-cells in the parent colony, in the meantime.

PENNSYLVANIA.

ANSWERS.—1. Your plan ought to work well.

2. It would be less trouble to leave the frames of honey on through the winter, just as they were when the bees closed up their storing, and it is possible it might be better. It would make a sure thing of having abundant winter stores, and save your disturbing the bees in early spring. The only question in the case would be whether there would not be a disadvantage in obliging the bees to keep warm the extra space overhead, but the advantages might easily overbalance that.

Possibly you may run against a little snag when it comes to keeping these frames from the time the early harvest begins till buckwheat comes. Unless special care is given, you may rely on worms doing their work on unprotected combs during the hot season. In a place cool enough there may be little or no trouble, but it isn't always easy to have such a place. You may keep the combs closed so as to be proof against the entrance of the moth; but that will not save them, for pretty certainly there will be present the seeds of the evil planted there the previous fall. One way to do is to fumigate the combs with sulphur, or, better still, with bisulphide of carbon or formaldehyde, and repeat at intervals of 2 or 3 weeks. There will be no need of repetition if, after all the eggs and larvæ present are destroyed, the combs are enclosed in some moth-proof place.

3. The thing you probably have reference to is a plan of moving the hive several times so as to face in different directions, finally moving it away and thus getting all the bees up to a certain age to join the swarm. But this is to prevent a second swarm, and not to prevent increase entirely. Latterly the plan is simplified by omitting a number of the movings, and the result seems to be just as good. It is very simple. When a colony swarms put the swarm in place of the old colony, setting the old colony as close as possible beside it, facing the same way. A week later move the old hive to a new location. That's all the bee-keeper has to do, for the bees themselves, if moved in the way mentioned, will destroy all queens or queen-cells but the one. What you seem to want, however, is to have no increase, and possibly this variation of the plan might suit you:

Set the swarm in place of the parent colony, as already mentioned, and the old colony beside the swarm. At the end of a week set the old colony on top of the swarm (of course, with no communication between them), and two weeks later still, or three weeks from the time the swarm issued, take out the frames of the upper hive and brush the bees down on the ground in front of the swarm, and then dispose of these combs in any way you like. The bees will dispose of one of the queens to their own liking, and you will have a strong colony with no increase.

I'll tell you another way you can get along without increase, if you care to take the trouble: When the colony swarms, return the swarm and kill or remove the old queen. A week later begin listening each evening to hear the piping of the young queen. When you hear it, go to the hive the next morning and destroy *all* queen cells. If it should happen that you have missed any cells, a swarm will issue, in which case you will return the swarm.

In olden times a plan was used that was effective, although troublesome. It was simply to return the swarm as often as a swarm issued. It sometimes meant returning a good many times.

Reports and Experiences

Some Experiences With Bees.

An article on page 187, by C. P. Dadant, on honey-production, has induced me to give my experience, and in so doing I do not wish to be understood as advocating any theory or method. It is useless to advocate any particular theory or method of handling bees as being infallible, for different localities and conditions necessitate different methods.

I am not an apiarist, I am only an old farmer that has kept bees more than 60 years. I have never kept more than 40 colonies, and sometimes much less than 40. I have always worked for comb honey, and have never had those large yields that many bee-keepers report. One of my best years was $60 from 6 colonies. None of my bees swarmed that year. Another year I had 12 colonies in the spring, increased to 27, and obtained 900 pounds of honey. I have not become a millionaire by keeping bees, but have found it profitable and very pleasant labor.

Many bee-keepers meet with winter losses and spring dwindling, and I am no exception to this loss, and I always save the frames of comb when such losses occur, for future use. For many years I have practiced hiving swarms in hives full of comb, and I have never had an instance where the bees filled the cells with honey to the detriment of breeding; but my trouble is in the opposite direction — they breed too much. With all prime swarms within 3 or 4 days after hiving on full combs, I commence putting on supers with foundation in sections. I always endeavor to give young swarms plenty of super-room, and yet they will sometimes cast a swarm. For instance, last season I had a prime swarm issue June 15. I hived them as described above, and gave them 2 supers, containing 28 sections each. In about 2 weeks they commenced to work in the supers and filled one super full and the others about 2-3 full, and on Aug. 10 they cast a swarm. I was very much surprised, as I was not expecting them to swarm. This is only one of several instances of the same kind that I have had in past years. No, I have never had any trouble with young swarms filling old comb with honey instead of brood.

I have not heard from any of the bee-keepers in this vicinity, so I don't know how bees have wintered. I put 18 colonies into bee-cellars and they are all right now, but it will be 4 or 6 weeks before bees can be placed on the summer stands. We have had 3 years that it was too wet and cold for a good and long flow of honey. Last fall was a little better than the two preceding years, and bees were able to feed later and fill up with honey, and they went into winter quarters well supplied with honey and young bees, so they ought to come out strong this spring.

We have had a large quantity of snow here this winter, but the cold has not been severe, although we had a few days that the temperature went from 24 to 32 degrees below zero. We have just had a young blizzard, but to-day the sun is shining warm and it is 36 degrees above zero.

S. B. Smith.

Foreston, Minn., March 5.

The Bee-Business—Wintering.

I'm a busy man, to say the least. I attend to 100 colonies of bees, rear a large number of queens, etc., and yet I always find plenty of time to read bee-papers and bee-books. I can say, like Dr. Miller, that I enjoy the work not only for the money there is in it, but for its many interesting points and its educational features that make bee-keeping indeed very pleasant and fascinating.

I have been in the bee-business several years, and still I know practically very little about it. And as I look into the future I find by experience that it pays to do the work well, and do it on time. Bees have their own peculiar ways of working, and no amount of persuasion on our part will change their habits one iota. We could help them a great deal if we only had the knowledge of what is required in the manipulation, and bees will accept readily what we have to offer if it suits their purpose. Bees have no whims or fancies, as some are inclined to believe. They have but one instinct, and that's business. Thus one of the real pleasures in bee-keeping is the fascination which inspires us with that point in view, relating to that "something" which will increase the facilities of bees for the purpose we have.

One of the problems I've been trying to solve during the past few years is wintering bees safely. Heretofore my loss has been from 5 to 20 per cent. The past winter not one was lost, and yet I wintered a large number of 2 and 3 frame nuclei. By this I understand that there are lots of things we can do if we only knew how to do them. To accomplish this we must work and study; no matter if we fail the first time, we must not be discouraged. "Faint heart never won fair lady," and the keeper will not be successful unless he acquires the knowledge which is essential in his line. Thus I believe that the experience of others is indeed worth while to consider very carefully. H. S. Duby.

St. Anne, Ill.

Wintered Well—Ready for Work.

Last winter we had 54 colonies in the cellar and only 1 was queenless. We had 96 outdoors, which is a loss of only 1 queen out of 150 colonies. All the rest came out nice and strong, and in fine shape. We did not have to feed any of them, as they all had plenty of honey. Those that were outside were mostly 2½ stories high. There was one left outside which had only the winter-case around it, and 1½ inches of chaff on top of the cloth, and the bees are as strong as any of the others, but they would not have come out so nice if it had not been an open winter.

Many of the strongest colonies reared a lot of brood in February when we had a nice spell of spring weather. So some of the colonies have young bees to go to work now.

The soft maple and May flowers are in bloom now, from which the bees are getting some honey and pollen. The elms, box-elder and blood-roots will be in bloom in a few days, if it stays nice weather.

Last year we got about 13,000 pounds of honey, mostly extracted, except about 2,000 pounds of comb honey, which we sold for 12 cents, and the extracted for 5, 7 and 8 cents per pound.

We sold all of it around home, and could have sold more if we had had it. If we have a good honey season this year, we will get a good deal more honey, as our bees are in far better shape this spring than last. We get most of our honey from white clover and basswood. Fred Banker.

Sleepy Eye, Minn., April 16.

Lots of Timber for Sections, Frames, Etc.

Some time ago I noticed something written about the scarcity of suitable timber with which to make sections, frames, etc., which I suppose meant linden or basswood and white pine, but principally the former, out of which, I suppose, most if not all sections are made. I would make this suggestion:

In this part of the South, not over 10 miles from Natchez, Miss., across the Mississippi River in the State of Louisiana, there is an inexhaustible quantity of tupelo-gum, cottonwood, willow, and some cypress, that can be bought at one's own prices. An enterprising man could come here and start a factory of bee-supplies and make a success of it, so far as the material is concerned.

Tupelo-gum is not used here for anything, and I am certain no better timber could be found for sections, and it could be bought so cheaply. The writer believes willow would also answer the purpose. Cottonwood would also be fine, if it would not warp, but it would do for frames. Then there is any quantity of red-gum, but the cypress has been culled over. Nevertheless, there is enough of the kind not used for the general purpose of building to supply the world in bee-supplies for years and years. Railroads are convenient now, running through the timber lands, and no trouble would be met with in transporting the timber to convenient points.

The writer has no "ax to grind," and does not own any of this timber, but he is a bee-man and interested only in getting bee-supplies when needed.

Besides, no better bee-pasture can be found than right here among this timber. Tupelo-gum comes nearer in general appearance to the linden than any other kind of timber known, and would undoubtedly answer all the purposes of the linden. John Kennedy.

Selma, Miss., April 10.

How the Bees Wintered.

During the last day in the month of March the weather became warm enough for the inspection of bees, and since April 6 they have been working on soft maple and elm bloom.

Of my 36 colonies, 1 died; 3 were found queenless (old queens of 1902), and 1 queen proved to be a drone-breeder or layer. The rest seem to be in the very best condition now, with an average supply of about 20 pounds of honey, in clean and dry hives, warmly packed, after uniting the queenless colonies with those least strong in bees.

On an average, my bees consumed about 15 pounds of their winter stores per colony, from October 1, 1905, to April 1, 1906—six months. Last winter, up to March 1, it was comparatively warm and open, and but once (on March 17) the thermometer registered 8 degrees, Fahrenheit, below zero.

In all we had in January 2 zero days—2 degrees below; in February, 3 days 6 degrees below; in March, 3 days 8 degrees below.

Bees had flights in December, 1905, on 9 days; in January, 1906, on 9 days; in February on 9 days, and in March on 5 days.

Considering the precarious and destitute condition my bees were in at the end of the month of September last year, when I fed them plentifully, I think they wintered remarkably well. Reports come in from all sides that the losses of bees are quite general and heavy, many losing all they had. Only those who fed well in time, and prepared their bees properly for wintering, sustained but light losses.

The months of March, and April so far also, forebode another wet summer season, which of course would mean another bad season for our bees. But then, "what can not be cured must be endured." My bees remain winter-packed in double-walled hives until supers are put on, and they begin to be cramped for room in the brood-chamber. Wm. Stolley, Sr.

Grand Island, Neb., April 15.

Frame-Spacers.

I wish to tell Mr. Hasty, in answer to his reference to bottom spacers, on page 182, that I used the Wagner bottom-spacer several years before adopting the present spacer, which he pronounces too weak and liable to crush down. This crushing down is theory. The necessity of a stout spacer is theory also. Of course, if the hive-bottoms are loose, there would be no danger; but, then, I do not use loose bottoms, and do not think any one should. Some use them in their increase methods, but I think there are better increase methods than those where loose bottoms are used in connection with the upper stories. I build my hives for honey-production, not increase of colonies. I strive to keep down increase.

There should be a sidewise pressure on the bottom-bars of the frames, and this cannot be had with the Wagner. The spacer should be soldered in a permanent position before it is removed from the form. If it is removed from the form, the spacer is no more stable or exact than a piece of wire, and cannot be nailed to the bottom-board in an exact position. The spacer must be bent right; the right kind and size of wire used. Then soldered fast in position so that it will never move. If it moves, it will spring back again. It requires exactness in a perfect spacer, but exactness is easy to get when a form is used on which to bend and solder the wires.

We want the spacer that works best in the hive, and the hive full of bees, and under the management of a skillful operator, rather than with the hive empty or carelessly or ignorantly handled. If hives are intended to be used in hauling rock, they would want spacers stouter than cast iron. I am willing to forego some of my roughness if it brings an increase in utility. No one can appreciate a good bottom-spacer until he has used them and then become accustomed to them.

C. W. Dayton.

Chatsworth, Calif., April 4.

This Offer Good Until July 1st Only!

DOOLITTLE'S
QUEEN-REARING
BOOK
For Only 25 Cents

When taken with the Weekly American Bee Journal for One Year at $1—making $1.25 for both.

(Book bound in Leatherette cover, otherwise same as the cloth-bound book, which is $1.)

This offer is open to any body, either new or old subscribers, but the latter when accepting it must send enough to pay their subscriptions a year in advance, if they are in arrears now.

Mr. Doolittle's book tells in detail just how he rears the best queens possible; also gives **His Methods of Comb Honey Production.** Every bee-keeper should have this book. (126 pages.)

Our Standard-Bred Italian Queens

are unexcelled. Reared by best queen-breeders. Prices—1 Untested, 75c; 3 for $2.10; or 6 for $4.00. Orders filled in rotation. Better get your orders in **NOW** for June delivery.

The Weekly American Bee Journal one year with Untested Italian Queen—both for $1.50. Or, if your own subscription is paid to the end of 1906 or beyond, send us $1.00 and the name and address of a new subscriber for the Bee Journal a year, and we will mail **to you a Standard-Bred Queen FREE.**

Sample copy of the Weekly Bee Journal free on request, or a **Trial Trip** of 3 months (13 copies) for only 20 cents, to a new reader. Better order now, as there are lots of good things appearing in its columns every week. Address,

GEORGE W. YORK & CO.
334 Dearborn Street, CHICAGO, ILL.

Cheap Rates to Boston

$19.00 for round-trip from Chicago (plus $1.00) via the Nickel Plate Road, May 31st to June 9th, inclusive, with privilege of extension of return limit to July 15th. $24.00 via New York City, all rail, or $23.00 via New York City and steamer in both directions between New York and Boston. Stop-over at Niagara Falls and Chautauqua Lake points, if desired, within limit of ticket. Tickets good on any train on above dates. No excess fare charged on any train on Nickel Plate Road. Meals in Nickel Plate dining-cars, on American Club Meal Plan, ranging in price from 35 cents to $1.00, Mid-day Luncheon 50 cents; also a la carte. Three through trains daily, with modern Pullman sleeping cars to Fort Wayne, Findlay, Fostoria, Cleveland, Erie, Buffalo, New York City and New England points. Trains depart from La Salle St. Station, Chicago, the only Depot on the Elevated Loop. Write John Y. Calahan, General Agent, Room 298, 113 Adams St., Chicago, for reservation of berths, in through standard and tourist sleepers, and full particulars. 2—4t

BANTA Incubators & Brooders

Backed by 14 Years of Successful Use by poultrymen all over the world. No guesswork. They are automatic in regulation and ventilation. Fully guaranteed to give YOU satisfaction. Send for free book. BANTA-BENDER MFG. CO., Dept. 24, Ligonier, Ind.

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Consult Your Lawyers by Mail

Legal Consultation, $1.00. Ascertain your rights. Understand your liabilities. Overcome your difficulties. Safeguard your property. Avert disaster. Avoid litigation. Secure your interests. Protect your family. Perfect your title. Insure your inheritance. Relieve your mind of worry, etc. Bank and court references. Our book free. $1

ASSOCIATED LAWYERS COMPANY
Old South Building, Boston, Mass.

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Queen-Clipping Device Free!

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One New** subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
CHICAGO, ILL.

Please mention Bee Journal when writing Advertisers.

Italian Bees for Sale

We can furnish Nuclei and full colonies of Italian Bees (f.o.b. 100 miles west of Chicago by express) at these prices, on Langstroth frames:

FULL COLONIES in 8-frame hives, $5.50 each; in lots of 5 or more at one time, $5.25 each. Full colonies in 10-frame hives, $6 each; in lots of 5 or more at one time, $5.75 each.

Nuclei (3 frame) with Tested Queen, $3.25 each; in lots of 5 or more at one time, $3 each. Nuclei ready for delivery about May 10; Full Colonies any time now.) Orders filled in rotation. Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Bees For Sale

100 colonies of Bees for sale cheap in 10-frame L. hives. All frames are worked out on full sheets of heavy foundation. 100 all-zinc queen-excluding Honey-Boards. Queen and Drone Traps, Smokers, 1 and 2 pound Sections, Hoffman self-spacing Frames, etc.

Address, **G. PROCHNOW,**
18A6t MAYVILLE, WIS.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

☞J. G. Goodner, of this State, writes me that he "prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

Mention Bee Journal when writing.

$19.00 to Boston and Return $19.00

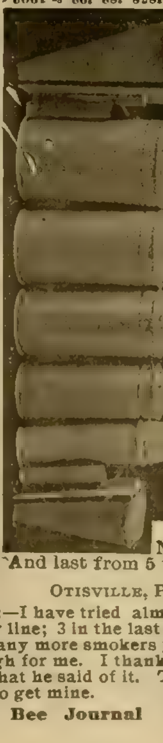
plus $1. from Chicago, via Nickel Plate Road, May 31st to June 9th, inclusive; also via New York City at excursion rates. Return limit of July 15th by extension of ticket. Folders, rates and all information furnished by applying to John Y. Calahan, General Agent, Room 298, 113 Adams St., Chicago. 4—4t

BINGHAM

Original Direct Draft CLEAN Bee Smokers

Pat'd 1878, '82, '93 & 1903

4 Largest Sizes Soot Burning



Tin 4-in. Smoke Engine 3½-inch 8-inch 2½-inch 2-inch Wonder
$1.50. $1.10. $1.00. 90c. 65c—per mail.
Sent on receipt of price per mail.

T. F. BINGHAM Farwell, Mich.

Never Go Out
And last from 5 to 21 years

OTISVILLE, PA., Jan. 18, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

Mention Bee Journal when writing.

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. ∴ ∴ ∴ **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

WALTER S. POUDER,
513-515 Massachusetts Ave., INDIANAPOLIS, IND.

Fine Italian Queens

BY RETURN MAIL

Select Queens, purely mated, at $1.00 each. Your satisfaction is my desire. I guarantee Queens to arrive safely, and will gladly replace any not satisfactory. No disease. Order what you want at the above price. Queens go by return mail, or your money refunded, unless otherwise instructed. This ad. may not appear again, but prices are good for the season. So send your orders here at any time.

CHAS. M. DARROW,
21A1t R. F. D. 1. MILO, MO.

Mention Bee Journal when writing.

Queens Now Ready to Mail

None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

GRANT ANDERSON,
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$750 COCK

Send 25c for 3-months subscription to the weekly AMERICAN FANCIER and get beautiful color picture 8x10 of the noted Buff Plymouth Rock that cost $750

FREE

AMERICAN FANCIER,
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"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

DOOLITTLE & CLARK

Are now booking orders for **QUEENS.** PRICES:

Untested—1, $1; 3, $2.50; 12, $9. Select Tested—1, $1.50; 3, $4; 12, $14. 1905 Breeders, $2.50. Select Breeders, $5. Extra-Select Breeders, $10. Two-frame Nuclei (without queen) $2.50; 3, $7; 12, $25.

Borodino,
Onondaga Co., N. Y.

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A. H. REEVES
DISTRIBUTOR OF ROOT'S GOODS FOR

NORTHERN NEW YORK

Perch River, Jefferson Co., N. Y.
19A4t Please mention the Bee Journal.

Bee-Keepers

If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to
20Atf **A. COPPIN, Wenona, Ill.**

One Fare for Round Trip

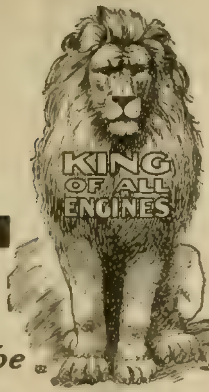
plus $1.00 from Chicago to Boston and return, via Nickel Plate Road, May 31st to June 9th, inclusive. Also excursion rates via New York City. Extended return limit July 15th. John Y. Calahan, General Agent, Room 298, 113 Adams St., Chicago. 3—4t

BEE-KEEPERS

Send for our 1906 Free Illustrated Catalog. Good Goods, Low Prices and Prompt Shipments are what you get if you send your orders to—

PAGE & LYON MFG. CO.
New London, Wis.

Please Mention the American ee Journal when writing Advertisers



The

Lion Engine

is sold direct from FACTORY to USER

Acting on the theory that "testing is proving" we will send any responsible person, on certain very easy conditions, one of our three h. p. gas or gasoline engines on **10 days test trial.**

This engine is **no experiment,** but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

Our igniter and mixer are of the most simple and reliable character. The gasoline is always properly vaporized and the igniter point never comes together unless a spark is required.

The fly ball type of governor is used, which automatically controls the exhaust, igniter and the gasoline; it also allows the speed to be changed from 100 to 600 revolutions per minute while the engine is in motion—**a very superior feature.**

LION GAS OR GASOLINE ENGINES are simple in construction and EASY TO OPERATE

They are used for all purposes where power is required for operating private electric-lighting plants, small factories, printing offices; farm machinery, such as cream separators, feed-grinders, corn shellers, wood-sawing machines, etc., and for a thousand and one other purposes.

WRITE US A LETTER LIKE THIS:

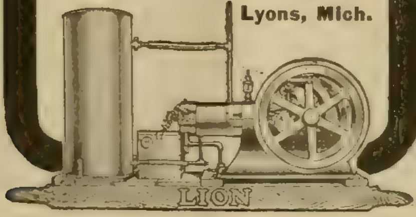
Lyons Engine Co.,
Lyons, Mich.

Gentlemen: I am about to purchase a gas or gasoline engine for__________purposes and wish you to send me full particulars about your approval offer as advertised in American Bee Journal.
Yours very truly,

Name__________
Town__________
State__________
Street No. or P. O. Box__________
R. F. D.__________

When writing, please **state definitely** for what purpose you wish to use this engine and whether gas or gasoline is to be used for fuel. **This information is very important to us.** Please remember we send the engine, **not the engine agent.**

LYONS ENGINE CO.
Lyons, Mich.



Increased Business Compels Larger Space

So we have just doubled our capacity in the building at 141 Ontario Street, where we carry a full line of **POULTRY SUPPLIES** and

LEWIS POPULAR BEEWARE

Catalogs on application. **Orders filled promptly at Factory Prices.** Beeswax wanted—28c cash or 30c in trade.

Italian Bees in modern hives with select Queens for sale. Also Pure Italian Queens.

YORK HONEY-&-BEE CO.

SPECIAL OFFER ON BEE-SUPPLY ORDERS

Until June 1, 1906, we will **give free,** on each order for bee-supplies amounting to $10 or over, a choice of one of the following: A Bingham Doctor Smoker; a Bingham Honey-Knife; or a year's subscription to the Weekly American Bee Journal.

YORK HONEY AND BEE SUPPLY CO.
H. M. ARND, MGR. (Not Inc.
141 Ontario St., CHICAGO, ILL.
(Phone North 1559.)

Bee-Keepers' Supplies

Lewis' Famous Bee-Hives and Sections, Root's Smokers and Extractors, Dadant's Comb Foundation, Etc., Queen-Bees and Nuclei in Season. Large and complete stock, prompt service. **We meet all competition who will furnish first-class goods.**

INCUBATORS AND BROODERS

We carry a complete stock of "Mandy Lee" Incubators and Brooders. Don't fail to investigate these machines. The more you know about incubation, the more you will like the "Mandy Lee" Incubator. The "Mandy Lee Brooder" is a complete old hen, all but the "cluck." Our free incubator catalog describes them.

C. M. SCOTT & CO. 1004 East Wash. Street
Indianapolis, Ind.

Mention Bee Journal when writing.

BEE-SUPPLIES

We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

LOWEST PRICES

and our excellent freight facilities enable us to make prompt shipments over 15 different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the

Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS now.** Write to-day.
Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.
T. B. Vallette & Son, Salina, Kan.

Catalogs issued in English or German.

"In every country the successful advertiser is the continuous advertiser."

CHARLES MONDENG SECTION MACHINE

is covered by two Patents. With this wonderful invention the cost of making Sections may be reduced to $1.15 per 1000. If such Machine will interest you, write for further information. Do not write about it unless you mean business.

BEE-SUPPLIES AND QUEENS

My Catalog for 1906 is now ready for distribution. I am the Northern Headquarters for **Adel Queens and Bees**, and good, honest Bee-Keepers' Supplies. If you have not received my Catalog, write for it. Address,

CHARLES MONDENG,
160 NEWTON AVE., N., MINNEAPOLIS, MINN.

Have You Passed the Experimental Stage?

Most bee-keepers have been convinced that when time and material are figured, it pays to buy hives, and the best is not only as cheap, but—

The Best is the Cheapest!

The Elgin Hive excels in many ways—no nails to drive—no dovetails—can be taken apart at any time.

Many are using them. You **should** be. Write to-day for catalog, etc.

We sell **full line of SUPPLIES.**

The National Supply Co.
ELGIN, ILL.

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Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

After April 15th.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8.00	$ .95	$ 5.00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10.00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested ..	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders.......	$10.00
Select Golden Breeders	3.00
" 3-band "	3.00
" Carniolan "	3.10
" Caucasian "	3.25

1-frame Nucleus (no queen)	$1.50
2-frame " "	2.00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive......................	6.00

Bees by the pound in light shipping-boxes, $1.00 per pound.

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.

FARMER'S CALL, Quincy, Ill.

Mention Bee Journal when writing.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
17A26t 138 N. Pleasant St., Norwalk, Ohio.

Queen Incubator and Brooder—Twin Nucleus-Box

MAINLY FOR QUEEN-BREEDERS

Incubator and Brooder allow the bees access to the cells and queens at all times. (Patented July 7, 1903.) Price, $5.00.

Twin Nucleus and Mating Box has control of the queen by a 3-hole wheel on the outside, with one hole wire-screened, one hole covered with queen-excluding zinc, and the third hole to regulate the size of the entrance. (Patent applied for.) Price, $1.00.

Cylinder Cages, postpaid, each, 10 cents. Queen-Cells, 100 mounted, with sample of Cylinder Cage (sent postpaid,) for 75 cents.

Breeding Queens, after May 1st—Italian, Imported and Golden Italian, and Carniolan—$2.50 each. Orders booked now and filled in rotation. Send for free Circulars.

7Dtf **ARTHUR STANLEY, Dixon, Lee Co., Ill.**

Mention Bee Journal when writing.

CAUCASIAN QUEENS!

Caucasian Bees are very gentle. They are easy to handle and are, therefore, suited to beginners, timid bee-keepers and to those who keep bees in town. If you want to try this race, or if you want to improve the stock of your Italian Bees, write to

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R. F. D.

The Choicest of Tested Queens

By Return Mail—$1.00 Each,

From our fine strain of 3-band Italians, that are unsurpassed as honey-gatherers. Try them; they will not disappoint you. Send for price-list.

J. W. K. SHAW & CO.
19Atf LOREAUVILLE, Iberia Co., LA.

Wanted

To sell lot of 300 empty 60-lb. capacity Honey-Cans. All in one lot, or less quantities. Cans are in first-class condition.

We are also in the market for Fancy Comb and Extracted Honey. Correspondence solicited

Michigan White Clover Honey Co.
AGENCIES: DETROIT, MICH.
35 So. Delaware Street, Indianapolis, Ind.
150 E. Jefferson Street, Louisville, Ky.
643 Broadway S.E., Cleveland, Ohio.
20A13t Please mention the Bee Journal

Bees, Queens and Bee-Supplies

We manufacture standard dovetailed bee-hives and supplies, cheaper than you ever bought before. Our Queens and Bees stand at the head in quality. Untested, 75c each; $4.25 for 6, or $8 per doz. Tested, $1.25 each; $12 per doz. Select Tested, $1.50. Special prices to dealers in large lots on application. State Agents for **Dittmer's Foundation.** Catalog free.

THE BEE & HONEY COMPANY
(Will Atchley, Prop.)
Beeville, Bee Co., Texas.

Italian and Caucasian

BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in MAY:

One Untested Queen.....	$1.10
" Tested Queen.	1.50
" Select Tested Queen	1 65
" Breeding Queen.....	2.75
1-comb nucleus (no queen)	1.15
2 " " "	2.00
3 " " "	3.00

Untested in May; all others ready now from last season's rearing. Safe arrival guaranteed.

For prices on Caucasians and larger quantities, and description of each grade of queens, send for free catalog. **J. L. STRONG**
16Atf **204 E. Logan St., Clarinda, Iowa.**

Mention Bee Journal when writing.

ROSE LAWN QUEENS

ANOTHER GREAT OFFER

We wish to mail our new 8-page catalog to 1000 more progressive bee-keepers in the United States and Canada in the next 10 days. This catalog is full of valuable information for bee-keepers, and is the finest ever issued by a Queen-Rearing Concern.

Here's pay for your help: The first 100 persons sending us 10 addresses of bee-keepers with $1.00 cash, will receive one of our very finest Select Tested "Pure Gold" Italian Queens. We sell them for $2.00 each; they are worth $5; every queen a breeder of the highest type of color, gentleness and fertility, line bred to the Rose Lawn standard. If the queen does not suit you, send her back and get your money. That's a fair offer.

This is purely an advertising proposition, and only 100 Select Tested Queens will be furnished at this price. Send on the names and a dollar. **ROSE LAWN APIARIES,**
19Atf Sta. C. LINCOLN, NEB.

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Excellent Goods
Lowest Prices

Bee - Supplies

OF ALL KINDS

ESTABLISHED 25 YEARS

We have published THE AMERICAN BEE-KEEPER for 16 years (monthly, 50c a year.) The largest and best illustrated magazine of its kind for the price published. Edited by two of the most experienced bee-keepers in America.

Sample copy free.

Our large, illustrated Price-List of Supplies free on application. Address,

The W. T. Falconer Mfg. Co.
JAMESTOWN, N. Y.

Mention Bee Journal when writing.

Honey and ✣ Beeswax ✣

CHICAGO, May 18.—We are having very little call for honey, either comb or extracted. Fancy comb is bringing 15c; other grades from 10@14c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c.
R. A. BURNETT & Co.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay.
GRIGGS BROS.

INDIANAPOLIS, May 12—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, May 18.—The old lots of comb honey are about cleaned up in this market, and the market is ready for new goods. There are not enough sales to give quotations. Some old extracted honey is selling at, white, 6@7c; amber, 5@6c. Beeswax firm, 29c.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
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CINCINNATI, March 8.—The conditions of the market, at the present time, are not encouraging. Honey is offered from all sides, at prices utterly regardless of the value of the article. At the same time, all indications point to an unusually good honey crop, which adds in making it a drag on the market. Amber extracted honey in barrels, 5@6½c; fancy white, in cans, 6½@8½c. Choice yellow beeswax, 30c, delivered here.
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DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, May 5.—Our market is about cleaned up on old comb honey. What there is now left is selling at $3.25 per case for fancy white. It looks as if there would be a good demand for new honey just as soon as it comes to market. There will be very little comb honey left over this season in this city. Extracted is moving rather slowly at 5½@6c. Beeswax, 25c per pound.
C. C. CLEMONS & Co.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c. Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., MAY 31, 1906 No. 22

R. H. SMITH
APIARIST
ST THOMAS
ONT.

Honey Exhibit of R. H. Smith, at Toronto, Ontario, Canada
(See page 466.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
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334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

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Contents of this Number

Illustrations—

Honey Exhibit of R. H. Smith............1st Page

Editorial Notes and Comments—

Doolittle's Out-Apiary Management............ 461
Followers in Brood-Chambers.................. 461
Taxing Bees in Wisconsin 461

Miscellaneous News Items—

City Ordinance Against Bee-Keeping........... 462
How to Treat Lies............................ 462
Inexcusable Carelessness..................... 462
Photographs for the Bee Journal.............. 462

Contributed Special Articles—

Color of Honey 464
Dadant Methods of Honey-Production (No. 12) 464
Feeding Bees in Spring 463
Increase of Colonies......................... 463
Natural or "Shook" Swarming.................. 463
Offers of Proof of Machine-Made Comb Honey 464
Stimulative Feeding.......................... 463

Southern Beedom—

Next Texas Bee-Keepers' Convention.......... 465
Removing Sections from T-Supers.............. 465

Canadian Beedom—

Brood to the Top-Bar in Combs................ 466
Middlesex County Convention.................. 466
Visit to R. H. Smith—Honey Exhibit........... 466

Our Sister Bee-Keepers—

Honey for Anemia and Baby Food.............. 466
Smartweed and Goldenrod...................... 467
Spiders in Folded Sections................... 467
Women Bee-Keepers Not Trouble-Makers......... 466

Mr. Hasty's Afterthoughts—

Aspinwall Non-Swarming Hive.................. 467
Bible References to Honey.................... 468
Experiments on Preventing Swarming........... 467
Extracting Combs Taken Right from Hive....... 467
Mountain and Rambler's Apiary................ 467
Plain Sections Gaining in Circulation........ 467
Roller Machine for Uncapping................. 467

Dr. Miller's Question-Box—

"Beginner Improving Stock"................... 468
Best Honey-Producing Bees and Queens......... 468
Emptying T-Supers by Gravitation............. 468
Patented Hives............................... 468
Queenless Bees Gathering Pollen.............. 468
Rearing Queens............................... 468
Requeening................................... 468
Wiring Shallow Extracting Frames............. 468
Zinc-Excluders............................... 468

Reports and Experiences

April Favorable fer Bees..................... 469
Bees Never Wintered Better................... 469
Bees Short of Stores......................... 469
Bees Wintered Well........................... 469
Burying Bees................................. 469
Fastening Starters........................... 469
Feeding Bees to Prevent Starving............. 469
Flattering Prospect.......................... 469
Gallberry Honey.............................. 469
Good Prospects............................... 469
Good Prospects for White Clover.............. 469
Heavy Loss from Starvation................... 469
Hiving Swarms................................ 469
Poor Season for Bees in 1905................. 469
Pure-Blooded Bees............................ 469
Value of Bees to Blossoms.................... 469
Vetch Honey.................................. 469
White Clover Thick........................... 469

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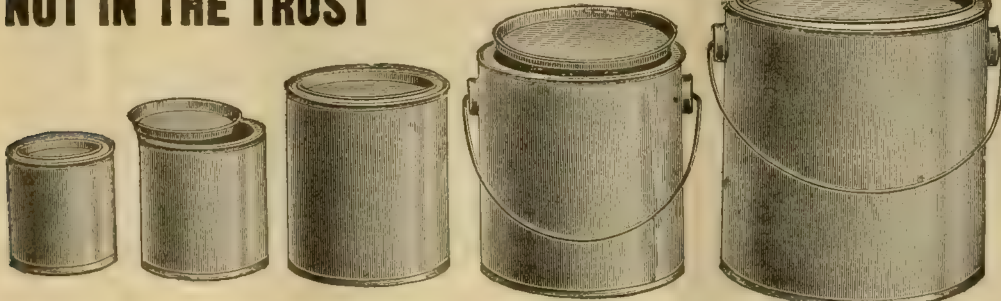

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In addition to continuing the several interesting articles by Alexander, and other noted contributors, which are running in GLEANINGS IN BEE CULTURE, the publishers announce as a special feature for the remaining issues of the year, a series of articles on the CONTROL OF SWARMING FOR COMB-HONEY PRODUCTION. These by bee-keepers who have experimented to the point where experimenting is done, and the crown of success has been awarded.

If you have not seen the first installment of this series, send in your name for a three-number trial subscription, which will be given free of charge. The April 15th, May 1st, and May 15th numbers will be mailed to you, and by June you will undoubtedly be so interested you will want to take a six months' subscription at least. The special price of which will be 25 cents.

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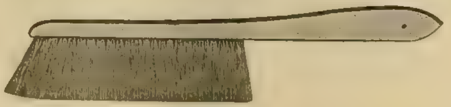

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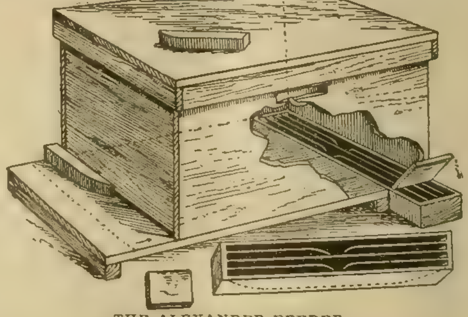

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GEORGE W. YORK, Editor CHICAGO, ILL., MAY 31, 1906 Vol. XLVI—No. 22

Editorial Notes and Comments

Doolittle's Out-Apiary Management

Mr. G. M. Doolittle, in a series of articles in Gleanings, gives in detail the plans he used in 1905, in the management of an out-apiary of 19 colonies in 10-frame hives, by which he secured an average of 114½ pounds of section honey in a poor season. He practised shaking swarms, but with some modifications that he considers of the utmost importance.

April 14 the hives were put on the summer stands. There were 11 good colonies, 5 fair, and 3 weak.

April 24 a visit was made, and any colony not having 20 or more pounds of honey had the deficiency supplied.

May 20 a frame of the most nearly matured brood was taken from each colony having only 6. This made 13 of the 19 colonies with 7 brood each, and to each of these 13 colonies an upper story was given over an excluder. This upper story contained 10 of what Mr. Doolittle calls reserve combs, saved over from the previous season, with more or less honey in each. Before putting on this upper story, however, the 2 outside combs of the lower story exchanged places with the 2 reserve combs that were the third from each side in the upper story.

The fourth visit was made June 16, when black locust was out of bloom, many heads of white clover were in full bloom, and two neighbors reported that swarming had begun. Each upper story was found to contain 50 pounds of honey or more, and this upper story was placed on the stand, the lower story having been removed. In the center of this broodless story, now on the stand, was put a comb half or two-thirds filled with brood, most of the remaining cells in the comb being empty. This comb would allow the queen to continue laying without interruption. If necessary, such a comb was obtained from one of the weaker colonies. Two supers of 44 sections each were placed over the lower super containing 12 bait-sections, the cover put on, and then the bees shaken and brushed from the brood-combs in front of the stand. Care was taken not to handle the combs so violently as to shake the nectar out of them, and they were held low so that the queen might not be injured in falling. Excluders were put over the 6 weaker colonies, and over these were piled the 13 stories of brood, some of them having, of course, as many as 3 stories of brood over the excluder.

It will be noted that Mr. Doolittle does not wait to see whether a colony has begun to make preparation for swarming, but begins operations at his own convenience, taking all at the same time, paying no attention to the matter of queen-cells till the bees are off the combs, when any cells that are found present are destroyed.

For many it will not yet be too late to put in practise the most important parts of Mr. Doolittle's plans, which have much to commend them.

The National Bee-Keepers' Association

We understand that in two or three of the States certain would-be leaders among the bee-keepers are attempting to induce members of the National Association to drop their memberships, or at least have tried to prevent local associations from re-joining in a body at the 50-cent rate. We trust that in all such cases bee-keepers will continue their individual memberships, by renewing direct to the General Manager, N. E. France, of Platteville, Wis., even if it does cost each one dollar. It is worth it for the defense feature alone. There is no telling when a member may get into trouble with some jealous or spiteful neighbor, and so will need the help of the National.

The National Association has done, and is doing, too much good work for bee-keepers, to allow a few dissatisfied members to interfere either with its membership or successful efforts. There will always be a certain few among large memberships of organizations, who, if they can not rule, will try to ruin. But such can not do much damage, for their true motives are soon discovered, and so their influence counts for little.

Taxing Bees in Wisconsin

We have received the following concerning the taxing of bees:

> Must bee-keepers pay taxes on bees here in Wisconsin? If so, how much should a colony be assessed—what valuation?
>
> I enclose an assessor's blank, on the back of which it says 5 colonies are exempted. PETER VANISH.

We referred the above to Mr. France, of Platteville, Wis., General Manager of the National Bee-Keepers' Association, who answers thus:

> All other personal property except such as is exempt from taxation in Wisconsin is subject to assessment and taxes. This will include bees, except 5 colonies kept for the use of the owner and his family. About two-thirds of the Wisconsin bees are not assessed. Valuations vary with assessors, all the way from 50 cents to $3 per strong colony. Generally it is $1 a colony.
>
> My home apiary has been taxed for 25 years, and as many years some of my out-apiaries have not been taxed. Live poultry, not exceeding $25 worth, is also assessable, but no poultry in Wisconsin is assessed, as I know of, or in any other State. N. E. FRANCE.

Followers in Brood-Chambers

Referring to what is said by Mr. Pettit on this subject on page 367, Dr. Miller says:

> I am glad of Mr. Morley Pettit's views, and although still left with some degree of wonder why he should so dislike a dummy, he has given light that I am glad to get. I know now why he prefers staples to nails for spacing. With the room given by the removal of the dummy, I have no trouble with nails catching. If I had no dummy, I am pretty sure I should prefer staples, as he does.
>
> The point, however, which most earnestly excites my interest, is his first "reason:" "No wax built to fasten top-bars to their neighbors." Now, my lengthy friend, how could you be so viciously tantalizing as to leave that bald statement without a word of explanation as to how you accomplish the feat. I have decidedly more building between top-bars than I like, and if you will give me the secret of preventing it, I'm ready to be on speaking terms with you again. I've studied carefully what you say, and find two things having a direct bearing: One is that you have exact spacing, and the other that your

top-bars are 9–8 wide. Exactly what I have. Your top-bars are ⅝ deep; mine ⅞. I wonder if that could make any difference. My spacing is 1⅜ from center to center, and I think you have the same, making the space between top-bars ¼ inch. Please give me the secret of the difference if you can. C. C. Miller.

It might be to the interest of bee-keeping in general if these two men could meet in person without the privilege of separating until they had come to an agreement as to whether a dummy in a brood-chamber is worth while or not. Possibly, under such restrictions, the conference might be a lifelong one.

It is not likely that any one would claim for a dummy any advantage beyond that of making it easier to take out the first frame. There can be no doubt that it is easier to lift out a frame when a vacant space of something like ¾ of an inch has been made. But there is the objection of an extra piece to handle, and it certainly takes at least a little time to take out a dummy, which time would be saved if the first frame could be lifted out just as easily before taking out the dummy as afterward. But taking out a frame of comb can hardly be as easy as taking out a dummy, unless the surface of the comb can be just as true as the surface of the dummy Any irregularity of combs threatens injury to the bees when no vacant space is provided, and the question is whether such very true combs can be secured. Mr. Holtermann's proviso, "with comb foundation and accurate spacing," points to at least two things that favor perfectly true combs.

Mr. Pettit says, "Unless the hive is too large by a half inch," etc. With so small a space as a half inch, a dummy would seem to be very objectionable, and if Mr. Pettit's trial of the dummy was in such a space, he could hardly view it with any favor. There should be at least a space of ¼ of an inch between the dummy and the wall of the hive, and the same space between the dummy and the adjoining frame. With a thickness of ¼ inch for the dummy that would make ¾ of an inch as the minimum space. Less than that would cause the bees to fasten the dummy with glue so that a frame would first have to be withdrawn to make it possible to get out the dummy!

Miscellaneous News ✧ Items

Inexcusable Carelessness.—We quite frequently get correspondence that bears no name or post-office, so that we can do nothing with it whatever. It seems too bad that any one should be so forgetful as to omit the most important part of a letter. It would be a good thing if everybody who does any business at all would use printed stationery. It costs very little, and would be a great thing for careless people, and a nice thing for all other folks.

Photographs for the Bee Journal.—As the most beautiful time of all the year is at hand in many localities, we would like to suggest that our readers make good use of the camera in taking pictures of their apiaries. We can use quite a number of such pictures during the year in the American Bee Journal. We always stand the expense of engraving whenever we use a picture in our columns. It is very important that the photographs be very plain and distinct. Any that are dim or blurred in any way do not make good engravings. The majority of the pictures of apiaries are larger horizontally—much wider than high; we could use a few quite tall. We have had several pictures in the past, especially where there were tall trees in the apiaries, that were just the thing. It may be that some of our readers have their apiaries near nice, tall trees that would make beautiful pictures.

We would suggest that all who can do so have photographs taken of their apiaries, including their residences, also (in the same picture), where it is possible, and forward them to this office. Be careful to put your name and address on the back of the picture, so we will know whose it is. On its receipt we will notify the sender whether or not we can use it, and if it is suitable we will request descriptive matter to accompany it when publishing. If any picture should not be considered usable by us we will be pleased to return it. We will also return any after using if so requested.

We would further like to request those of our readers who have any improvements in bee-keeping in the way of fixtures, implements, etc., to send us drawings or pictures of same for reproduction, with descriptive matter, in our columns. It is our aim to make the American Bee Journal as helpful as possible to all its readers. In order to do this we need the co-operation of all who are able to lend a hand. As practically all of our readers have been greatly aided through reading what has been published herein, it would seem to be no more than fair that those who have discovered or invented good things should share them with others. There are only a very few things gotten up in bee-keeping that are worth the expense of patenting and advertising. Besides, it has become almost a custom in the bee-keeping industry to be unselfish, and to give to fellow bee-keepers whatever good thing any one has discovered in working with bees. In this way bee-culture has been able to make the great progress which it has done in the past score of years.

City Ordinance Against Bee-Keeping.—The Grand Rapids (Mich.) Herald, of May 19, announces that Alderman George Owen has introduced an ordinance against bee-keeping within the city limits, to which he expects to add the keeping of monkeys and pets. It seems from the report that one day Mr. Owen's business trip carried him into an outlying district of the city where he came in sharp contact with a bee. So the following Monday night he introduced a resolution into the Council, calling for the prohibition of bee-keeping within the city limits, on the ground that they are "dangerous animals." The report says that the Ordinance Committee could not decide whether bees were animals, birds or fowls, so the ordinance had been lying quietly in its pigeonhole awaiting decision. Now, Alderman Owen, it says, is thinking of going a step further and adding to it a section making it necessary for persons desiring to keep monkeys, to exercise proper care that they do not escape.

We do not see that there is any objection to mixing bees and monkeys, except that if Mr. Owen is not careful he will make a fine "monkey" of himself. He needs to read some of the literature published by the National Bee-Keepers' Association. Such ordinances against bee-keeping do not hold, as they are generally pronounced unconstitutional when tested in the proper courts.

We are indebted to Mr. H. F. Moore, Secretary of the Chicago-Northwestern Bee-Keepers' Association for a copy of the Grand Rapids Herald, containing the marked item from which the above is taken.

How to Treat Lies.—Were you ever lied about? We have been, and when we were younger it used to be somewhat annoying, but not so any more. The following advises very nicely how to treat personal lies:

> When a person tells a lie about you, pay no attention to it. If you make a lot of explanations those who want to believe ill of you will believe the worst. Simply say the statement is untrue, and talk about the weather.
>
> The greater a man is, the less is he disturbed by what others do or say against him, without cause. Mean natures are provoked to anger by lies. Let your life and acts be at such variance with a lie that untruthful statements concerning you will fall like a broken shaft, when it strikes your armor of truth.
>
> You can never stop people from lying about you, but you can reduce the number of opportunities for them to tell truths about you that would be harmful. Lies don't hurt much. It's truth that does the damage.—Star Monthly.

A bee-paper recently misrepresented The Honey-Producers' League. Then in its next monthly issue it "took it back," and said the League was "Exonerated." Now, how foolish it would have been for any of the other bee-papers to have taken up that misrepresentation, denied the charge, etc. It was better simply to ignore it, and leave it where it started.

A bee-paper makes its own reputation just the same as does a person. If it desires to go into the misrepresentation business, that is its privilege. But we doubt if many bee-keepers would "stand for it" very long. "Be sure your sin will find you out."

Mr. J. W. Rouse, President of the Missouri State Bee-Keepers' Association, will speak on "The Relation of Bees to Horticulture," before the Missouri State Horticultural Society, at its semi-annual meeting at Moberly, Mo., June 12, 13 and 14, 1906.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Contributed Special Articles

Feeding Bees in Spring—Swarming

BY G. M. DOOLITTLE.

A CORRESPONDENT writes me that he reads my articles in the American Bee Journal with much interest, and especially the one entitled, "Among the Bees in Spring." Then he tells that he and others may not have the combs of honey to set in colonies not having stores enough, and wishes to know what I would do did I find myself thus situated.

In reply, I would say that I should not let another season pass till I *did* have some of these reserved combs set away for use the next spring. I cannot see the policy of running a bee-yard so close that more or less of the colonies come out near the verge of starvation in the spring; nor of the policy of extracting all the honey out of combs to sell in the fall, and then depend upon "any old way" of getting the bees through the spring. Do things up in a workmanlike way with the bees as well as with other things, and always reserve enough of those combs of honey from extracting so that you will be sure of carrying the bees safely through the spring. In this way, both you and the bees will be in a great measure independent of what the spring proves to be regarding a yield of nectar.

But I realize this does not help over the present, when the bees must be fed or starve. There are two ways of feeding inside the hive which I have used successfully. Where I wish to feed weak colonies or nuclei for any special purpose, or for an occasional feeding in the spring, to coax a colony to build queen-cells or rear drones early, I use a division-board feeder, which is simply a feeder made by nailing a thin board to the side-bars of a frame of the same size the combs are built in. These thin boards should lack one-half inch of coming to the top, thus providing a ready access to the inside of the feeder by the bees. Then a hole should be bored through the top-bar to the frame or feeder, near one end, in which a funnel can be inserted for pouring in the feed, which should be a little more than blood-warm for early spring use, so the bees can carry it, without being chilled, no matter what the weather is outside.

The other plan is to take a common milk-pan, or any of the cheap tin-pans which are sold for 10 cents or so, and punch the bottom full of holes, punching from the inside out, so that each hole will form a small separate stream when the pan is filled with sugar syrup. Place this pan in a board having a hole cut out of it so that the pan will "hang" in the hole, and nail the board to a suitable height table or bench. Put a washtub on the floor under the pan to catch any drip, when you will hold an empty comb about 12 to 16 inches under the pan, while an assistant pours the syrup in the pan. The falling streams of syrup will drive the air from the cells which will fill rapidly, and by moving the comb around a little, all the cells will soon be full, when the comb is turned over, and the other side filled. If you have a third person to hand you the combs and take away the filled ones, you can fill them almost as fast as he can handle them.

These filled combs can then be used in any spot and place where a frame of honey could be, but they are not nearly so pleasant to handle, on account of their being daubed up with sweet, and should be given the bees just at night so that robbing will not be started.

NATURAL OR "SHOOK" SWARMING.

The other question he wants answered is relative to swarming, he wishing to know which I prefer, natural or "shook" swarming. Well, unless I except wintering and foul brood, swarming is the greatest bane of bee-keeping. Of course, when a person has only 2 or 3 colonies, there comes an excitement and pleasure to natural swarming that is a keen enjoyment to the novice in bee-keeping; but to the one with his scores or hundreds of colonies, natural swarming is one of the most vexatious things to the bee-keeper. Consequently, when the proper time comes I make all colonies swarm on the "shook" plan, holding the strongest ones back till the proper time has arrived, by giving them lots of room by way of an upper story filled with combs, onto which they are shaken when the time for swarming arrives. The queens do not have access to these upper combs, they being kept confined below by means of a queen-excluder.

The time for doing this shook swarming is when our first harvest for surplus arrives, when all colonies which are strong enough are shaken, and the frames of beeless brood are placed over any not quite strong enough for this time over in shaking. A week later, the colonies to which we gave this brood, will be fairly running over with young bees, when these are shaken, and all combs of beeless brood piled on others which were still weaker at the time of the first shaking. If I have none of these quite weak colonies, or not enough to take 3 or 4 hives of this beeless brood each, small colonies are formed in advance to receive it, till I have the proper number. It would hardly seem possible that such little colonies, with the addition of these 3 or 4 hives of beeless brood would so build up that in the fall these hives on each colony would be filled with honey; but such is usually the case, where the queen is kept in her own hive by means of an excluder. And these hives of honey are just the thing needed to carry the bees through the spring in "great shape," without any fussing with feeding or feeders, save the setting in of the combs where any colony is needy. Try it. Borodino, N. Y.

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Stimulative Feeding, Increase, Etc.

BY PROF. A. J. COOK.

I HAVE been much interested of late to note how general the feeling prevails among even our most successful and wide-awake bee-keepers, that great benefit is sure to come with stimulative feeding. When such authorities as Alexander and Holtermann give to this practice a certain regular place in their apiarian management, it has a significance that should not fail to attract attention. This stimulative feeding, as its name indicates, is not to furnish food to the bees, as they may be well supplied, but is rather to insure activity on the part of the worker-bees, as this is the most absolute necessity if we would secure the fullest activity of the queen. Storing by the workers, wheresoever the source of the supplies, means rapid egg-laying and abundant brood in the hive. Of course, populous colonies follow as a necessary result, and we have one condition imperative to a large honey harvest. We find that the amount fed daily need not be large, and, of course, the time is early in the season before the bees can secure nectar from the flowers. The failure to gather may arise from lack of flowers, or such cold that no nectar is secreted, or from the fact that the season forbids flight, either from cold or rains.

I am peculiarly gratified at this expression of opinion, as emphasized by practice, as I have been a strong advocate of this stimulative feeding for many years, as I have known positively that, wisely practiced, it would pay large returns for time and money expended, as I say in my "Manual of the Apiary" on page 264:

"Hence, if we would achieve the best success, we must keep the workers active, even before gathering commences, and to do this we must feed sparingly before the advent of bloom in the spring. For a number of years I have tried experiments in this direction by feeding a portion of my colonies early in the season, and always with marked results in favor of the practice."

The old-time readers of this Journal will remember my account of these experiments away back in the '80's. Colonies equally strong were selected, and some were fed a little daily, while an equal number were fed none at all, though they had abundant honey in the hive for their needs. The result invariably was a substantial increase of the brood in the hives where the colonies were fed, and, of course, more bees and more honey as the season advanced. I am sure that the wise apiarist will not neglect this among the other details, the regular and faithful performance of which means success, and the neglect a certain failure.

INCREASE OF COLONIES.

E. W. Alexander is one of our bee-keepers that we may all be proud to honor. I am pleased with his method to increase his number of colonies. He would never permit natural swarming. To build up nuclei is too expensive in time. To transfer queen and bees to a new hive, set on the old stand on frames of foundation, and remove the old hive to a new place, so weakens the old colony that eggs and brood are destroyed at a serious loss. Hence, the following, which surely will meet favorable opinion from all experienced bee-men:

In this case all but the central frame has foundation, as before. Here a frame of brood with the old queen, but with no queen-cell or cup with egg or larva, which if present must be destroyed. Set this on the old stand, put a queen-excluding honey-board on it, and the old hive on top of this. In 5 days examine the old hive for incipient queen-cells with larvæ, which, unless from a superior queen, destroy at once and separate the hives. If no queen-cups with larvæ are found, leave the old hive 6 days longer, then separate, and in 24 hours introduce a good queen. In this case no brood is destroyed, no eggs are lost, and 2 good colonies are the result.

This method commends itself to my judgment, and I question if a better method has ever been suggested. To those who have studied bees so as to understand their habits, I feel sure Mr. Alexander's plan will receive more than a passing notice. The fact that it is the plan of one so able and so successful is also much in its favor.

COLOR OF HONEY.

One of our ablest and most conservative writers on apicultural topics feels sure that he has evidence that honey from the same plant may vary in color, owing to season or locality. I should say, "Interesting, if true." How can we be sure in such case that no other honey is present?

One year I noticed a decidedly red hue to our clover honey. I wondered at it. I sought hard for the cause. I found it in a smattering of juice from very ripe red raspberries. As the bees got but little of this juice it was no injury, except its tint. But it was deep red, and a little went very far to affect the color of the other honey of the hive. I believe we should look very thoroughly, then look again, before we conclude that honey from flowers of a plant varies in color.

Offers for Proof of Machine-Made Comb Honey

BY DR. G. BOHRER.

I received the following letter, to which I wish to reply in the American Bee Journal:

> Dr. G. Bohrer:—I have been told that you made a standing offer of $500 for comb honey made by hand or machinery. Is this offer yet before the public? and for what time will it be held open by you?
>
> I would be pleased to have you specify particularly what is covered by the bounds of your offer, in the way of the number of combs, how made and appearance of same. If this meets your pleasure, I would be glad to receive an early reply.—W. A. Webb.

Mr. Webb, in reply to your letter of inquiry as to the conditions of my offer to pay $500 for two 4¼x4¼x1½ sections of artificial comb honey (built or constructed by human hands with the aid of machinery, and entirely without the aid of the honey-bee), the same to be filled with artificial honey, so-called, and capped over in the cells of said combs without the aid of bees, I will state that I did not make such an offer, because I never expected to pay the same, for the reason that I know that no such work has ever been done. I only made the proposition to set the masses to thinking and making the inquiry as to where and by whom artificial comb honey had ever been constructed, if at all, and where a factory producing such comb, together with the machinery used, could be found, which most certainly could, and would, have been done long before this if there were any, as the offer I made is not a new one by any means, the same offer in substance having been made years ago, but probably was not so publicly and extensively advertised as my proposition.

If the people, who have been led to believe that such a feat as that of manufacturing comb honey by artificial means, can be induced to search for such factory, they will soon put the matter of having been deceived to rest permanently, and for the betterment of themselves as well as the bee-keeping public. For many people will not buy comb honey, owing to the belief that much of it is produced by artificial means, and wholly without the aid of bees, both comb and honey. Artificial honey, so-called, has been manufactured and sold in nicely ornamented receptacles for years, and is an old fraud; but artificial comb honey has not been produced up to 1906, and probably never will be; yet I am not sufficiently egotistical to declare flatly that it will not be produced. I believe, however, that if a perfect imitation of honey is ever manufactured by artificial means, and put on exhibition at any of our National bee-keepers' conventions, the bee-keepers would gladly make up and pay to the producer the sum I have offered. I will pay my share of it at any time, should it occur while I still live. And I hope, Mr. Webb, that you will persevere in your fforts to find such a sample of artificial comb honey as I have described, until you fully convince yourself that nothing of the kind now exists, and publish the results of your search to the world in order that many may become convinced that they have been deceived by a straight-out falsehood.

And after all this, if you still entertain the belief that such comb honey can be produced, use your utmost endeavors in trying to produce it, and I have no doubt that at the end of your efforts you at least will be wiser than you are now.

Lyons, Kans.

12—Dadant Methods of Honey-Production

BY C. P. DADANT.

If the reader has followed me, in previous articles, he is aware that we use from 1 to 2, and sometimes 4 supers. We aim to have enough for 2 to each colony. This may seem a small number to those who are accustomed to the 4¼ super for 8-frame hives, but they must bear in mind that their super will hold a scant 24 pounds of comb honey, while my large super will average about 40 pounds, net, of liquid honey. In an extraordinary season, I weighed an extra-well-filled super and found it to weigh 68 pounds gross. We usually figure on a net yield of 40 pounds of liquid honey from each super.

In an ordinary season we put the supers on at the opening of white clover. We are not in a very favored location as far as honey-yield is concerned. A friend of mine said to me once, "Illinois is the best State in the Union, and we are in the best part of Illinois." Even if this were literally true, the crops of this most excellent productive country are corn, oats, wheat and timothy. There is not much honey in any of these. So we do not expect much outside of our pasture-lands. The orchard blossoms are not numerous enough, and, if they were more numerous, the bees are hardly numerous enough during the very short apple and peach bloom to secure surplus. So the bees hardly ever whiten their combs until the clover crop is on, and we find it unadvisable to wait, as some of our bee-friends do, until the combs are being whitened at the top before putting on the supers.

If the colonies are as they should be, strong in numbers, they will need watching and attention until the very eve of the crop, for they may be short in food just before the beginning of a strong flow, especially if a few rainy days should come. The more powerful the colonies, the more brood they rear, and the more important is their need of sustenance. Yet it is at this very time that we put on the supers. If perchance a good fruit-bloom should cause them to whiten the combs in May, we at once put on the supers. I have seen this only twice in all my experience.

It is of very great importance to get the supers on before there is any crowding in the brood-chamber. We must prevent our bees from *wanting* to swarm, for if they once *want* to swarm, it is not likely that we will take this notion out of their heads. Occasionally, our bees get ahead of us, either because we are deceived as to the appearances of the crop and it comes more promptly than we anticipate, or because after it has begun we delay too long in adding supers. In such cases we have quite a number of swarms, but the quantity has never exceeded 25 to 30 percent. If we keep ahead of the bees, the number of swarms that issue is not worth considering.

If the colonies are very strong, and the prospect good, we often put on 2 supers at once. If we are short of built combs, we usually put a few sheets of foundation in empty frames mixed in among the already built combs, but we never give a super with foundation only, for two reasons: In the first place, the bees will occupy a super much less willingly if it does not contain any already built combs. On the other hand, it is not advisable to let them load the foundation down, for they may break it loose with their weight. Take notice of how they build their combs, when left to themselves. As fast as they add to the bottom of the comb they widen and strengthen the top. But if they are given full sheets of foundation, they will sometimes build out the center cells, leaving the top as weak as when inserted by the apiarist. If only one or two sheets of foundation are given, or if they are placed alternately with built combs, the foundation is occupied more slowly, and is well strengthened before it is heavily loaded.

From time to time we examine the colonies to see how the crop proceeds. There is usually some irregularity in the yield. Some strong colonies seem able to fill the supers you may pile on, while others work slowly at their first super. When we see the end of the crop approaching, we cease adding supers, and, instead of this, we equalize, taking from a well-filled super a few heavy combs to exchange with some slow colony which is not likely to fill all its combs. Sometimes we make the equalization in a still more radical way. Take two colonies side by side, one of which has two or three nearly full supers, and the other barely beginning in its one super. We exchange one of these nearly filled supers, bees and all, for the super of the weaker colony. The latter will be just able to ripen the honey, add a little to the supply, and seal the remaining cells; while the other will at once proceed to finish the almost empty super. In this way, at the end of the crop we will have uniformly filled combs, and there will be no handling of unprofitable empty combs.

A young bee-keeper would perhaps fear a battle when thus exchanging supers from one hive to another. Fear nothing of the kind, if this is done when the bees are harvesting honey, for at such times they are peaceable and pleasantly disposed towards one another. Like the human race, they are hospitable when the larder is well filled, but are otherwise when in want, or when they know that it is difficult to replace what is spent. That is why they tolerate the drones, or the manipulations of the apiarist during a good crop, while they will prove churlish and sour if the weather is bad and the harvest over.

I must say, however, that it is not necessary thus to exchange bees as well as supers. The bees may be removed before making the exchange, and we would do it, by all means, if we thought there would be any danger of exchanging queens, or of giving both queens to one colony. But the queens are so rarely in the supers that we have little fear of this. The only reason why we exchange the supers, with the bees as they are, is to save labor. At the time when these exchanges are made, we usually have our hands full, and need to be as expeditious as possible in all the manipulations. Our aim is to produce the largest possible amount of honey with the least possible expense in labor or material.

Hamilton, Ill.

Southern ✦ Beedom ✦

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Removing Sections from T-Supers

Dr. Miller, very few of us Southern Beedomites have had occasion to use T-supers, nevertheless we would "like to know." *I* always had the idea that the board with which to push the sections out, was placed up on some object the depth of the super, but with outside dimensions somewhat smaller than the inside of it. On top of this set the super with sections to be removed, and *push* the *super* down, leaving the sections up on the "object." In the pictures on the front cover page of March 29th number, showing "the way you do it," it seems you push the *sections* down, eh? No, you *pull* the super up. Is there not a greater strain on your thumb and fingers in pulling the supers off over the sections? Perhaps you will tell us why it is done in just such a way.

Using Lighter Grades of Comb Foundation

For some time I have advocated the use of very light brood-foundation, running from 10 to 11 Langstroth-size sheets to the pound. Many bee-keepers are using medium brood foundation, only 6 sheets to the pound, and that with wires in the frames. This has always seemed a great waste. Light brood foundation, 8 sheets to the pound with wires, as commonly used in brood-frames, is much better. Still, *I* have had a hankering toward something *still lighter*; hence the above light-weight foundation was given a trial. Using the 10-frame hive, there is more uniformity as regards the number of pounds to fill a certain number of brood-chambers. With 10 sheets to the pound, a saving of a pound of foundation is made every time 5 bodies are filled—yea, a little more, or 1¼ pounds—than if an average of 8 sheets of light brood were used. This, at say an average price of 50 cents per pound, would mean a saving of about 62½ cents on every 5 hives, or a neat little sum of $62.50 on 500 bodies. The extra-light brood foundation I used did not cost me any more than the other. I found, however, that this light foundation had a greater tendency to break away at the wires when these were embedded in it. To overcome this, I simply hung the sheets between wires, one alternating with the other, so 2 would be one side and 2 on the other when 4 wires were used in a frame.

On this comes Mr. L. B. Smith with a question:

> I notice Mr. Scholl advises using thin brood foundation in place of medium brood, and not press the wires in, but let the sheet hang between the wires. It seems to us the bees would be more inclined to gnaw around the wires used in that way, though I've had no practical experience in the use of comb foundation in that way. How is it, Mr. Scholl? L. B. SMITH.
>
> Rescue, Tex.

There might, perhaps, be trouble if the frames of foundation fixed in this way were given during a dearth of honey, but as I gave them when comb-building was going well, and I had my hives all *level*, so the sheets hung close to the wires, and the bees drew them out in fine shape.

I would be glad to have others write if they have had any experience of this kind.

I now have a good many hive-bodies that I intend to try in this way, and I have been thinking that some improvement might be obtained by the use of a few of Dr. Miller's splints embedded vertically, with melted wax, on the side of the foundation. These would hold the foundation close to the wires, and, in case the sheets should have a tendency to sag at the top as some makes of foundation sometimes do, the splints would help much in this respect, also. The extra cost of the splints, it seems to me, would be slight, indeed, compared with the saving obtained in using the lighter 10-sheets-to-pound foundation.

Dr. Miller, what can you tell us on this subject? Please don't say, "I don't know."

The Next Texas Bee-Keepers' Convention

The 6th annual meeting of the Texas Bee Keepers' Association will be held at College Station, July 10, 11 and 12, 1906. The time of the next annual Farmers' Congress, on the Texas Agricultural and Mechanical College grounds, has been set for July 10, 11 and 12, the sessions beginning at 9 a.m. on the 10th, and adjournment is provided for at 10 p.m. July 12. The program of the bee-keepers will be as follows: Opening Prayer. The Annual Address by the President. Reading of Minutes of Last Meeting. Report of the Secretary-Treasurer. Business of the Association. Discussions: "How Can this Association be Made More Effective in Its Work?" "Arrangements and Entertainment of the National Bee-Keepers' Association at San Antonio, Nov. 8, 9 and 10. Question-Box.

The "Question-Box" is to be one of the main features of the convention, and all bee-keepers are invited to ask such questions as are of most importance to them. Let us hope for a large gathering of bee-keepers, and that the meeting will be a valuable one to all.

Accommodations for taking care of the several thousand delegates to the Farmers' Congress will be more adequate this year than heretofore, as preparations for this have already begun. Besides the large Mess Hall, where meals will be supplied at the usual rate heretofore given—three meals for $1.00—there will be an adequate lunch-stand and restaurant operated by College authorities to receive the overflow. A new hotel has recently been built by private individuals, where meals can be had at 50 cents each, and, with these provisions, there will probably be no trouble to care for all the delegates. Lodging in the rooms of the college dormitories will be without charge.

Arrangements have been made to accommodate the delegates who wish rooms reserved for them, and their requests can be sent to the Secretary of the Congress, Mr. C. Hansom, of Rockdale, Tex., who will receive them. But for this to "hold good" the delegates must claim their rooms in person on the first day. Special quarters in the south section of Foster Hall have been reserved for the ladies, and the same rules for reserved rooms for lady delegates will hold as above. For any other information in regard to this convention, letters may be addressed to me, and I will gladly give it, if I can do so.

Louis H. Scholl,
Committee on Program,
Secretary-Treasurer Texas Bee-Keepers' Association.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Visit to R. H. Smith—Honey Exhibit

I spent a very pleasant half day at the home of R. H. Smith, of St. Thomas, recently. He is situated in a closely populated residential section of the city, and has besides his 100 or so colonies of bees there, a workshop and honey-house, where supplies are made and honey is put up for his trade, which not only supplies the city of St. Thomas, but extends to customers all over the Dominion. In this way Mr. Smith not only disposes of the product of his home and out apiaries, but he also handles a considerable quantity of his neighbors' honey.

A good idea in advertising is the material turned out by a hand-printing press, operated by his son Henry. He prints their own letter-heads and envelops, postal cards, colored labels, etc. I enclose sample of blotter which is useful enough for the grocer to keep on his desk as a constant reminder of Smith's honey.

Mr. and Mrs. Smith gave me a very interesting account of their trip to Jamaica last winter. They engaged in bee-keeping while there, but saw no prospect of its being an especially profitable business.

Canadians will be glad to learn that Mr. Smith has found where the German bee-brush, described by Mr. Holtermann at the Brantford convention, is "made in Canada."

Referring to the picture on the front page, Mr. Smith says:

It is our 19th annual exhibit of honey and beeswax at the Canadian National Exhibition at Toronto, September, 1905. This exhibit (which was awarded First Prize for best display) was 25 feet long, but owing to the limited space in front, the picture could only be taken from the one end, and, consequently, does not fully show up the general design. It is made up of 11 entries in comb and extracted honey, aggregating about 2000 pounds. Some original features are shown. On the table in front, at the right, was an observatory hive of bees [not shown in the engraving] with sections above, in different stages of completion, from comb foundation to the finished comb; lithographed tin packages—the first of the kind to be put upon the market here; a small section of comb honey that retails for 5 cents is on top of the pail. This is a lively seller. A dish of cut comb honey (the famous honey on a stick for 5 cents), which has created a good market for honey, appears at the corner. Two large fish-globes, filled with comb honey by the bees, are shown as curiosities in the background.

R. H. Smith.

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Report of the Middlesex Co., Ont., Convention

This Association held its spring meeting in London, Ont., May 5, 1906. The bee-keeping fraternity of the County was well represented, and in addition were H. G. Sibbald, Wm. Couse, W. J. Craig, R. H. Smith, and Morley Pettit, from other counties.

The reports in wintering showed a considerable loss among cellar-wintered bees, owing to cellars having been too warm; but that outdoor bees had come through in good condition.

The program took the form of a Question Drawer, when the usual questions were brought forward and thrashed out. The bees preferred for white capping in comb honey were those of a cross between Italians and blacks. Some preferred the Italian-Carniolan cross, but did not want much Carniolan blood on account of their swarming propensities.

As to how many colonies can safely be kept in one yard, Mr. Sibbald thought, all considered, 100 is the right number. F. A. Gemmill had kept bees successfully where there were 350 in the one locality. The conclusion was that all depends upon the locality.

All kinds of separators were recommended for comb honey, but the preference was given to those through which the bees can pass freely.

Spring feeding received quite a bit of attention. Many said, "Be sure the bees have sufficient in the fall, then let them alone in the spring." Others recommended feeding to keep up brood-rearing between fruit-bloom and clover. The idea advanced by the present writer was to place in open feeders in the yard, thin syrup made of nearly 2 parts water to 1 of sugar, and in this way produce the conditions of a natural honey-flow.

The Alexander plan of helping weak colonies by placing them over strong ones with a queen-excluder between, was mentioned as having been tried by a few with a fair amount of success. Mr. Brainard uses 2 queen-excluders between to prevent the possibility of queens getting in touch with each other. Then when they are separated again the strong colony is moved to a new stand, and the weak one left to get the benefit of the returning bees.

The new Foul Brood Act was up for discussion, and seemed to meet the approval of most of the members present.

The convention adjourned to meet again the first Saturday in November, 1906.

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Brood to the Top-Bar in Combs

Dr. Miller and E. R. Root have overlooked a very important point (page 381). The sagging of the foundation is not due to the fact that wires are horizontal, but that they are not *taut.* We are taught to leave the wires a little slack, to allow the foundation to sag a little; then cry because the enlarged cells produce drones! Oh, "consistency thou art a jewel!" Horizontal wiring is *all right*, provided it is *done* right.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

Honey for Anemia and Baby Food

A French journal relates that a young woman suffering from severe anemia was told by an eminent physician that he could not cure her, but advised a trial of diet of milk and honey, aided by strolls in the woods. This simple treatment, in a few months, restored her exhausted body.

Another case is mentioned in which honey saved the life of a babe. Obliged to resort to the bottle, it was fed on cow's milk sweetened with sugar. But soon obstinate constipation required the constant use of laxatives. This abnormal condition was finally radically modified by the use of honey in place of sugar in the milk.

It would be for the health and happiness of many a family if the sisters would see to it that honey and sub-acid fruits, instead of being only occasionally used, were put on the daily bill of fare.

* * *

Women Bee-Keepers Not Trouble-Makers

As the number of women engaged in bee-keeping is small compared with the number of men, it is only natural that a proportionately smaller number should get into trouble with their neighbors on account of the bees, and so it is not to be expected that Mr. France, General Manager of the National, should have much trouble from the sisters. It is gratifying, however, to know that so far Mr. France has had no complaints from any of the sisters. Are women less quarrelsome than men, or is there so much native gallantry in men that they refuse to get into trouble with a bee-keeper who is a woman?

But Mr. France is not without his troubles with women who are not bee-keepers. He has a grievance against "Aunt Harriet," because she says in the Farm Journal that not only is honey manufactured, but the comb is also imitated, so that if you buy comb honey you are likely to get glucose. A Missouri washer-woman complains that her neighbor's bees "walk on the clean clothes on each wash-day with dirty feet, and asks the court to restrain the bees from wandering on her wash-days."

The sympathies of the sisters are likely to be with the washer-woman. To look at a line full of clothes so white as to awaken feelings of pride in the heart of any lover of cleanliness, and then to see the bees spot them so that they must go back into the tub again—well, there are times when language fails. Of course, the woman was wrong in thinking that the bees spotted her clothes *each* wash-day, the probability being that the offense was committed only on the day of their cleansing flight, and a little diplomacy on the part of the bee-keeper might have saved the wash being put out on that particular day, and so avoided all trouble.

An interesting case is reported, in which for a year a widow would not speak to a bee-keeper's family, the bees being within 50 feet of her back door, with an 8-foot fence between. Query: Was it the bees or the high fence that prevented a free exchange of thought?

Spiders in Folded Sections — Smartweed and Goldenrod

DEAR MISS WILSON:—I have worked with bees a number of years, and enjoy it. I wintered 42 colonies on the summer stands well packed in dry leaves, and plenty of sugar candy over the frames. I have 31 now in good shape, losing 11. Some bee-keepers around here have lost half. March was a very bad month on the bees—most of mine died then. The last few weeks have been very good. We are having a cold spell now, just at fruit-blooming time, which is quite a drawback to the bees. I don't think it will be very long before white clover will be in bloom; then putting on sections will be the order of the day. I have over 1000 that did not get filled, as last year was not a good honey year here. Some have starters, and most have comb built in them. The spider has built webs in them, and if I don't get them out the bees get hung and die. I have taken a feather and cleaned them out, but it takes so long. I wonder if any one knows of a quicker way. I would be glad to hear through the American Bee Journal.

I see on page 390, something about smartweed honey. Smartweed and goldenrod grow here, but do not furnish any honey. I never saw a bee on them. Heartsease. or "heartweed," as it is called by many, grows here, and the bees work on it. The honey is not peppery.

(MRS.) INEZ J. HENRY.
Braddyville, Iowa, March 7.

We have never had any trouble with spiders in sections, but spiders are very scarce in our shop where they are stored. We have had thousands of sections stored and never yet had to clean any spider-webs out of them. I wonder if putting a cover over your supers would not help to keep out the spiders.

Goldenrod is also plentiful here, but the bees do not seem to care for it.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued in April. The complete new 344-page book, bound in cloth, is sent postpaid for $1.00; the Appendix one for 10 cents. Or, the book and the American Bee ournal a year—both for $1.80; the Appendix and the American Bee Journal a year in advance, $1.00. Send all orders to the American Bee Journal office.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Extracting Combs Taken Right from the Hive

Honey right from the hive extracts much better than it does left over till next day—and that's rather a deadener to the plan of hauling combs home to extract. Page 303.

Plain Sections Gaining in "Circulation"

Certainly the maufacturer is just the one to know what kind of sections are called for. And he says that the plain section is still gaining currency, but not as fast as it did when it was a new broom, threatening to sweep all before it. Page 304.

The Mountain and Rambler's Apiary

That's a grand mountain on the front of No. 16, up to which an apiary nestles, or staggers in an inebriated sort of way. We look at the apiary the second time for the mountain's sake—and then the third time for Rambler's sake. Gone! Never to return—never until the end of these present things shall be.

Roller Machine for Uncapping

The rapid rotation of the rollers of the uncapping machine is needful, I suppose, to throw the wax and honey clear. The agitation of this subject is a cheerful sign that combs in the future are going to *need some uncapping*. So long as honey is taken with only a little strip sealed along the top there is not much room for a machine. Presumably the rotating-roller machines will get into practical success if there is demand enough for them. And I kind o' imagine that the hot plate could be made a success, also—with some possibility for the jet of hot steam. Page 304.

Experiments on Preventing Swarming, Etc.

I think the Rowsome experiments *are* somewhat valuable in their way—the way of showing us how not to do it. Not to expect much of mere empty space for discouraging the swarming impulse. Not to expect smooth, level work if we offer the chance and temptation to bulge things. And painting discolored sections with melted wax—'pears like we should have known better than that, anyhow.

That the fear of not being able to defend premises against enemies at some future time is a factor in the swarming impulse—I guess that theory will hardly hold water. Requires too long a *train of reasoning* on the part of the bees. Bees and ants, and elephants and dogs, reason, but not in the "fourthly" and "fifthly" and "Therefore" style of reasoning. Page 341.

Aspinwall Non-Swarming Hive

The discussion about the Aspinwall hive seemed to me to run too much on the expense and practicability of adopting it, and too little on the problem whether it is worth adopting—whether it is likely that in all seasons and conditions and locations it *will* prevent swarming. Perhaps those on the ground were told, but we are not, how extensive and how long a success it has had in its inventor's hands. That a few hives for a year or two did not swarm should not be allowed to weigh very much. We can afford considerable in the line of increased size of hive, and increased expense for new inside fixtures, if we can be sure of the desired result. Until we are somewhere near sure of that result much discussion of labor and cost looks a little premature. We read, "Strong colonies held together the whole year without swarming"—desirable certainly, *awfully certainly*. And that they will "go into winter quarters in a more uniformly good condition, and come out in the same way in the spring"—not much doubt about that. But the question, "Does the flying machine really fly?" must not be laid aside too soon. Then, if one man really flies it, "Can other people learn to fly it?" One man walks a rope;

but the generality of us never will, on account of the enormous amount of practise and skill called for. The working idea of this hive, you understand, is to put the brood-combs *far apart*, and so to divide up the intervening space that bees can harbor there freely but not build comb. Ingenious idea. And, "How does it work?" is the question most legitimately on the carpet. Manifestly the idea can't be tried much on a weak colony in spring weather of the windy and cold sort. Ruinous to the colony. And, perchance, the colony which is, early in spring, perfectly suitable for the trial wouldn't have swarmed, anyhow. Page 302.

Bible References to Honey

Mr. Winter has done a good work for us in collecting into one all the Bible texts that speak of honey. But he certainly should have put in also the three additional texts that speak of bees without using the word "honey." (Deut. 1:44, Psalms 118:12, and Isa. 7:18.) The first and second of these are good evidence that the ancient bee of Palestine was not always gentle; while the ease with which Samson seems to have gotten the honey, as an off-hand incident on his journey, when he must have been unprepared, is good evidence that gentleness during a heavy honey-flow was not unknown. One of the texts given shows that honey was used to sweeten pastry. The next text is the puzzle. Cakes were often burned on the altar of the Lord; but no honey must be put into any cakes used for that purpose; and leaven was also barred. Why should so good a thing, and so highly spoken of a thing, as honey be forbidden on the altar? Symbolism, most likely. Leaven a symbol of sin, in its capacity of spreading from heart to heart; and honey a symbol of fleshly indulgence. Page 301.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Emptying T-Supers by Gravitation

On page 288, my good friend, S. T. Pettit, whose picture I was very glad to see on page 377, commends the plan of taking sections out of supers by giving them time and letting gravitation do the work. Just as his letter reads, a beginner would be likely to think that the whole work of getting sections out of T-supers is done in this way, which I hardly think Mr. Pettit would advocate—certainly not, if conditions are the same with him as with me.

For many years I have taken advantage of gravitation whenever circumstances favor it, as may be seen by reference to "Forty Years Among the Bees," page 205, where it is said: "If there is a lot of glue, and if it is warm, stringy and sticky, it must be humored a little. It can hardly be jerked loose suddenly any more than if it was nailed; but if it is allowed time enough the weight of the sections may be enough to bring them down."

Generally, however, at the time when sections are taken out the glue is so hard as to resist entirely the effect of gravitation. Even when glue is so soft or so little of it that the sections drop immediately upon being turned over, it is advisable to use the push-board, as the super is not likely to be lifted off without some of the sections catching and making trouble. C. C. M.

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Best Honey-Producing Bees and Queens

The following questions have been sent in with the request that they be placed before the readers of the American Bee Journal, and that experienced bee-keepers should send in answers:

1. What race of bees are the best honey-producers?
2. Please recommend the queen-breeder whom you think has the best honey-producing queens for sale.
3. Can you get more honey by crossing 2 races of bees?

Indiana.

Answers.—The evident intent is to get an answer from a number of different persons, so as to have the fullest light possible. If disinterested information could be obtained, it would no doubt be a desirable thing, as not a few would like to know just what bees to get, and where to get them. But the attempt would not succeed to the satisfaction of all parties, and possibly to the entire satisfaction of none. It would be opening the columns of this Journal to an unlimited amount of free advertising, which would be unfair to those who pay regular rates, and at the same time the information would be anything but disinterested. Some one who has less modesty than others would be likely to make the strongest claims, and those who are most reliable would be more likely to hold aloof from tooting their own horns. See editorial on page 441, on "Claims of Advertisers and Subscribers."

I will, however, do the best I can at answering your questions.

1. The majority of bee-keepers probably favor Italians, yet opinions are by no means a unit, and if you will look over the back numbers of this and other bee-papers, you will get the opinions of those who prefer other kinds with probably as much satisfaction as if you got a lot of fresh opinions—possibly more.

2. You will find a reply to this question in the editorial, page 441.

3. That question can not be answered by a word of one syllable. A first cross is likely to result in increased vigor, but there is a loss of fixed type, and without intelligent care in selection there is likely to be deterioration in future generations. The expert breeder may succeed in fixing the type of a cross profitably, but the average bee-keeper will do well enough to continue something already established—if he can. The probability is, however, that in nearly all cases there will be a gain by introducing occasionally fresh blood of the kind already in use, and it may not be amiss to do some experimenting with other kinds. A safe piece of advice for all bee-keepers is to breed not from the poorest, but from the best.

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Rearing Queens—Patented Hives

1. In "Modern Queen-Rearing" it says, on page 21, the larva is removed from the comb and placed on the royal jelly in the wooden cell-cup, and then placed on the frame and given to the colony. Now, won't the larva drop out of the cell-cup when placed in position, which is with the opening down?

2. Would it be as good to put a thin coating of hot wax in the cell-cups instead of buying the wax-cells, if only a few queens are to be reared?

3. As I understand it, the Danzenbaker hive is patented; therefore, is a person liable to get into trouble by making this hive for his own use? If you don't known, please tell me who does know.

4. How would it do to take—well, I see those more experienced bee-men are laughing at my ignorance, so I will sit down.

Illinois.

Answers.—1. No, there is no danger of the larva falling out; the adhesiveness of the jelly holds it.

2. I'm not sure whether I understand you. The wooden cell-cups are never used without a coating of wax, and if you have cells of wax they don't need a coating.

3. That's one of the things I happen to know without asking any one else. If you make and sell a thousand of any patented article, you are liable to prosecution for infringement; if you make a single one for your own use, you are just as liable.

4. After you've been sitting long enough to think up some more questions, get up and ask them. I've a lot of answers on hand I'd just as soon use as not.

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Wiring Shallow Extracting Frames—Queenless Bees Gathering Pollen—Zinc Excluders

1. Is there any need of wiring extracting frames 5½ inches deep?
2. Will bees in a queenless colony gather pollen?
4. Is the zinc board supposed to lie on the brood-frames, or is it meant to have strips of wood between the zinc and the frames so as to make a space between the zinc and the brood-frames? Iowa.

Answers.—1. Not nearly so much need as for deeper frames, but while these shallow frames are new it would be better to have the strengthening of the wires. But with sufficiently careful handling you can manage them while new without wiring, and as they become older they grow tougher.

2. Yes, you will generally find an extra amount of pollen in a queenless colony, because they keep on gathering when they are not using much pollen; but after a colony is queenless long enough you will see very little pollen carried in, the bees seeming to have sense enough to know that they already have pollen enough on hand.

3. If all-zinc excluders are used, strips are generally placed so as to keep the zinc ¼ inch above the top-bars; wood-zinc excluders are rigid and stay up themselves.

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Requeening—"Beginner Improving Stock"

In the appendix to "Forty Years Among the Bees," under the heading, "Beginner Improving Stock," you say, "Put this prepared frame in the center of any strong colony after taking away its queen and one of its frames."

1. Do you give this prepared frame *immediately after* removing the queen?

2. Would the bees from which a prime swarm had issued swarm if all the queen-cells were cut away but *two*? In others words, would it be as well, or better, to leave only 2 cells instead of 1?

3. How soon after a queen is removed do the bees become conscious of their queenlessness and commence to start queen-cells in case they have brood young enough from which to start them?

Minnesota.

Answers.—1. Yes, have your prepared frame ready, go to the strong colony and take out a frame of brood with its adhering bees and queen—you can take away 2 or 3 such frames if you want to, the only essential point being that the queen be taken away, and that at least one frame be taken out to make room—and then before you close the hive put in the prepared frame.

2. It would be about as well to leave 10 as to leave 2, I think; that is, the bees would be as likely to swarm again with 2 cells as with 10. Most positively you must cut away all cells but one, if you are trying to prevent a second swarm by cutting out queen-cells.

3. I can not give you an exact answer and be positive about it. The time will not always be the same. If the queen be removed very quietly, I *think* the time will be longer than if the bees are thoroughly aroused at the time of the queen's removal. I *think* that under like conditions a weak colony will discover its queenlessness sooner than a strong one. Probably it will not be far out of the way to say that a colony will generally discover its queenlessness in about 24 hours.

Reports and Experiences

Good Prospects for White Clover

All my bees, except 9 colonies, died during the winter. I put 36 into the cellar last fall. Last year was the poorest for honey in this part of the State in 25 years. I got less than 100 pounds. I think prospects are as good now as they were in 1903 for white clover. It will be in bloom in about 2 weeks.

Maquoketa, Iowa, May 19. F. P. Juel.

A Flattering Prospect

The prospect for the coming season so far is very flattering. Bees have wintered uncommonly well. I have lost only 3 queenless colonies, and if a good honey season should fall to our lot, a good crop may be expected.

May the American Bee Journal prosper.

G. C. Greiner.

La Salle, N. Y., April 21.

Bees Never Wintered Better

I have just come back from putting out my bees in Vernon County. They never wintered better. In one yard all came out alive. I fed them heavy last fall, and wintered them in 2-story hives. I *know* this last is the main reason of my success. There was very little brood reared after Sept. 1, so lots of bees died during the winter, in some cases filling the lower stories half full. The top story gave the bees plenty of room and air.

Most bee-keepers in Vernon county, and also in Jefferson county, lost the greater part of their bees. Some lost all. They extracted as usual, and put their bees up for winter just as they happened to be. They could not expect anything else as the result.

Gustave Gross.

Lake Mills, Wis., April 21.

April Favorable for Bees

April has been most favorable for the bees. Many colonies are strong enough to swarm. I fed them to stimulate breeding, and it worked like a charm. The weather has been cold the past few days. Henry Alley.

Wenham, Mass., April 26.

White Clover Thick—Burying Bees

I have 36 colonies of bees in fine shape. I never saw white clover thicker than it is this spring, roadsides being a perfect mat of it, and where there was none last year the ground is covered now.

For 2 years I have been burying my bees. I learned it from a man here who has always practised it. I like the results very much.

Bellevue, Mich., April 30. C. H. Benson.

[Mr. Benson is invited to send a detailed description of the method he uses in burying his bees in winter, and we will be pleased to publish it for the benefit of our other readers. —Editor.]

Feeding Bees to Prevent Starving

The bees have had a late spring here in Southwest Texas. I had to feed until a few days ago, when the first honey came in to support brood-rearing. I had fed sugar syrup last fall, but did not calculate on such a late spring, and had I not fed the last month or 6 weeks, then every colony would have starved. Feeding is a mussy job at best, but a bee-keeper can not afford to let bees starve; and there is a world of satisfaction in the thought that such a disaster can so easily be avoided. If it does cost some money, each colony fed at such a critical time, when their natural stores are fast being used up in brood-rearing, may pay its owner a handsome profit many times over the investment a short time afterward. Otto Sueltenfuss.

San Antonio, Tex., April 24.

Gallberry Honey

Honey report up to Easter Sunday: Two supers, 5⅜ inches deep on an average, all gathered from gallberry in 10 days; all comb honey, although very little sealed to-day.

D. J. Pawletta.

Ft. White, Fla., May 3.

Bees Short of Stores

Bees run short of winter stores here—one man having only 10 colonies left out of 116; another having only 8 left out of 48. That was outdoor wintering. I always run about 20 colonies for extracted honey, but knowing the bees were short of stores, instead of extracting the honey they stored I gave it to them in the fall. I wintered 160 colonies in the cellar; all came out alive, but a few have died since. A. Coppin.

Wenona, Ill., May 8.

Poor Season for Bees in 1905

Last season was a poor one for the bees around here, but I increased from 7 colonies to 15, all of which wintered in good condition.

I feel sorry that I did not get the American Bee Journal 10 years ago instead of 1 year ago. It is the best bee-paper I read.

Quincy, Mass., May 8. John Ahlen.

Heavy Loss from Starvation

There is a heavy loss in bees in this part of the country this spring—dying of starvation. While I have only lost 8 out of 117, I would have lost more if I had not looked after them very closely. A. W. Swan.

Centralia, Kan., April 9.

Bees Wintered Well

My bees came out well. I lost 4 out of 50 colonies. They are working on plum blooms and dandelions now, and are in good condition. They were in 5 months just as they stood outside when the supers were off; no south side ventilation and no disturbing during the time. Wm. Cleary.

Algona, Iowa, May 8.

Vetch Honey—Good Prospects

I took off 47 pounds of native vetch honey to-day from 1 hive—1 super of 27 pounds, and 20 pounds in another super. I left 7 pounds, not quite sealed, in the super from which I took 20 pounds. They are good, heavy, filled sections, and good, thick honey. Most of the sections weigh more than a pound. Prospects show for a good crop of honey.

Augusta, Ga., May 9. J. L. Patterson.

Value of Bees to Blossoms

Not long ago a Connecticut bee-keeper inquired in regard to pollination effected by bees in an orchard. Here are some figures:

On the second day of April, 1863, a bee-keeper in Germany counted 50,400 bees heavily loaded with pollen come to the hive of a colony of black bees; on April 19, 1863, 54,870 Italians. Huber says that each worker-bee visits 50 blossoms before she has a load. Another German paper gives a statement of 17,000 colonies owned by a society. They averaged 40,000 loads from each colony for 100 days, or 68,000,000,000 loads. Suppose each bee had visited 50 blossoms, if only one-tenth of these visits effected pollination, they would have pollinated 340,000,000,000 blossoms. So the benefit, if only 7 out of 50 blossoms visited would be put at 1 cent, would be worth to farmers, gardeners and orchards $194,295.91; or per colony it would be $11.42. So our bees not only give us honey, but they perform other work worth more than the honey. Julius Priester.

Oregon City, Oreg., April 24.

Fastening Starters—Hiving Swarms—Pure-Blooded Bees

This is how I fasten starters in sections: I cut the section foundation across so I get 27 starters from one sheet of section foundation, and 8 starters from one sheet of brood foundation. Now take a board ½-inch thick and 17 inches long, straight edge on one side, and fasten this piece so the straight edge is right to set the starter on edge against it. Now get a board ½-inch wide and as long and flush with the outside of each end-bar. Now cut a notch in each end so the straight edge will come to the center of the under edge of the top-bar of the frame, and draw a pencil line in the center of the frame. Put the notched board against the straight board. Drop the starter in between the two pieces; press close (not to mar the foundation); with a table-knife turn the edge of foundation above the two boards on the one with the notches; set the frame, and run hot wax on the pencil mark. Then take the notched board with the starter and place it between the end-bars and press down tight. Push the notched board endwise; loosen, then press the second time and it will be firm and solid.

I fasten the section starters as described above. My bees fill the sections, top, sides and bottom solid, and I have no fault to find; so with brood-frames—straight combs and true.

This is the way I got down swarms in the summer of 1905. Every one of the swarms settled high, so I had to contrive how to get them down. I made a swarming-box that will hold 5 standard Langstroth frames. Take out the 2 outside, also the center frames, which leaves 2 frames, a space in the center and at each wall. Drive a nail in each end of the frame-rest, cut a saw-kerf in each end of the frame, and hang both frames on the nails. (The frames must have old combs, or are no good.) Make the box and cover of ½-inch lumber; let the cover come flush with the sides and ends of the box. Drive 2 nails in the upper edge on one side of the box in place of hinges; then cut a saw-kerf so the cover can slide under the nail-heads; on the other side drive a small staple. Cut a hole in the cover and let the staple come up through the cover so that a nail will close it tight. Nail on each end of the cover two strips of wood to hold the frames in their places, when the cover is put in its place. Get two strips of pine 2x1 inch, nail an inch-strip in the center of the 2-inch strip—T-pole 16 feet, or any other length you wish. Put on windlass rope and relay pin so you can raise or lower it in place.

Place the swarming-box in the tree just above the swarm, and if the bees don't go into it fast enough, smoke them with woolen rags fastened on a pole with fine wire. Don't let the smoke get into the box where you have the bulk of the bees. Put the smoke where the bees settled. This is the best plan I have found yet to hive bees.

Indiana wants to know if his 7 red-clover queens are pure Italian. I say they are not. A pure Italian queen is known by her progeny. Every worker should be marked with 3 bright bands, and the whole of the bee must be of a light shade. Every bee should be alike in color, and every drone should be marked alike—not any dark drones, as such show the impurity. Where a dark drone mates with a queen it begets a mongrel stock, and where the workers take an egg that would be a dark worker and rear a queen from it, the queen is black, and here we get more mongrel blood.

I say, take a full-blood queen and go on an island where there is no other race of bees, and the queen will breed both workers and drones that would be marked alike, and no person could see any difference. Do stockmen use mongrel sires to rear blooded stock? No. They take the purest and best of any race of animals for breeding; yet our queen-breeders are breeding with mongrel drones.

I have two queens whose drones are bright yellow to the tip of the abdomen, and I have one whose workers would be called 5-banded. This queen's drones are 1-3 dark. Her mother did not produce one dark drone in a hundred, yet they were there. If queen-breeders are not more careful about their drone progeny, soon there will not be any pure stock of bees in America.

E. Tucker.

Bergen, N. Y., March 3.

Rose Lawn Queens

Money for Honey

We offer to the person producing the largest number of sections No. 1 comb honey from a colony headed by one of our "Pure Gold" Queens before Sept. 15th, 1906........$10.00 cash

For 2nd largest number of sections..	7.50 "
For 3d " " " ..	5.00 "
For 4th " " " ..	2.50 "
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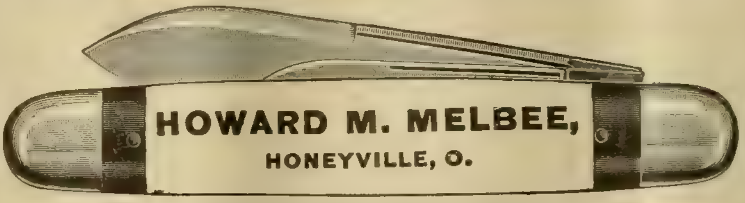

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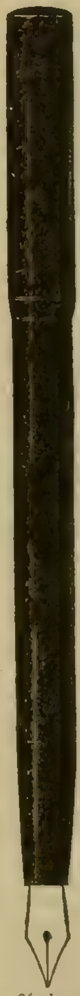

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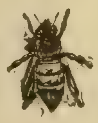

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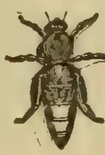

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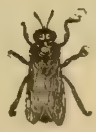

Drone

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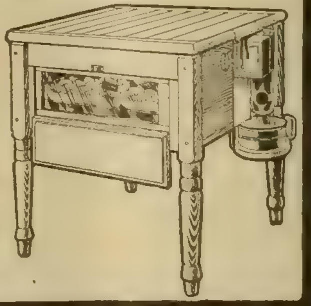

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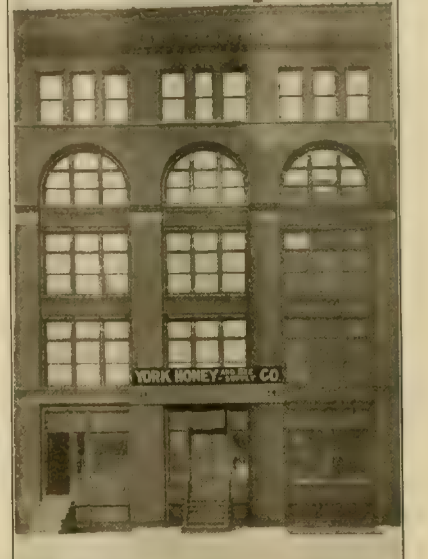

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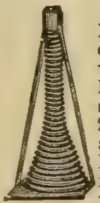

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Honey and Beeswax

CHICAGO, May 18.—We are having very little call for honey, either comb or extracted. Fancy comb is bringing 15c; other grades from 10@14c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c. R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, May 12—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, May 18.—The old lots of comb honey are about cleaned up in this market, and the market is ready for new goods. There are not enough sales to give quotations. Some old extracted honey is selling at, white, 6@7c; amber, 5@6c. Beeswax firm, 29c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
HILDRETH & SEGELKEN.

CINCINNATI, March 8.—The conditions of the market, at the present time, are not encouraging. Honey is offered from all sides, at prices utterly regardless of the value of the article. At the same time, all indications point to an unusually good honey crop, which adds in making it a drag on the market. Amber extracted honey in barrels, 5@6½c; fancy white, in cans, 6½@8½c. Choice yellow beeswax, 30c, delivered here. THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, May 5.—Our market is about cleaned up on old comb honey. What there is now left is selling at $3.25 per case for fancy white. It looks as if there would be a good demand for new honey just as soon as it comes to market. There will be very little comb honey left over this season in this city. Extracted is moving rather slowly at 5½@6c. Beeswax, 25c per pound. C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fency white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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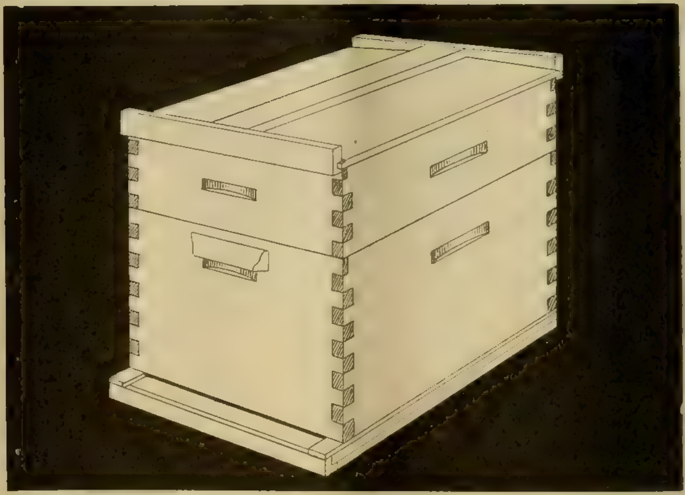

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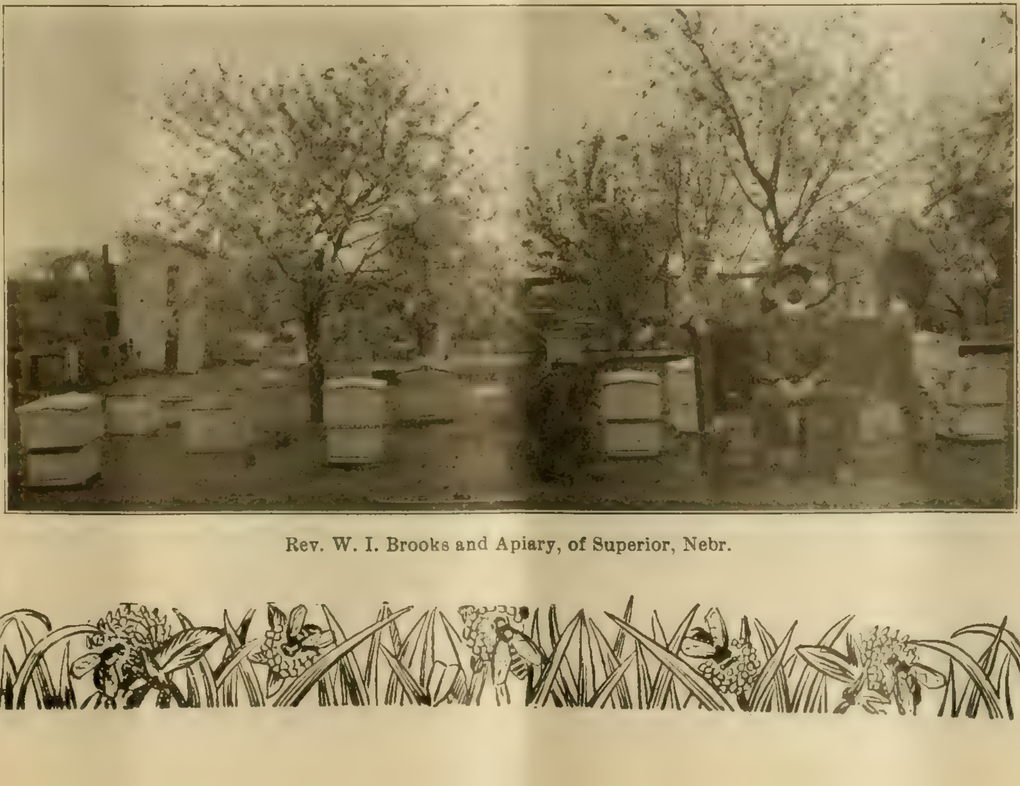
AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., JUNE 7, 1906 . No. 23

State Fair Honey Exhibit of Aaron Coppin.
(See page 482)

The Late Hon. J. M. Hambaugh.



Rev. W. I. Brooks and Apiary, of Superior, Nebr.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.

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Contents of this Number

Illustrations—

Apiary of Rev. W. I. Brooks.... ....1st Page
Hambaugh, J. M..............................1st Page
State Fair Honey Exhibit of Aaron Coppin.1st Page

Editorial Notes and Comments—

Bee-Keeping in the Public Press................ 481
Bees Building Comb Over Wires............... .. 481
Deep Bottom-Boards for Wintering............ 481
Does Heat Escape from the Bee-Cluster ?...... 482
Exposing to Air Hastening Granulation........ 482
Mice, Honey, Doolittle, Hasty and Miller....... 481
Smartweed Honey............................... 481

Miscellaneous News Items—

Apiary of Rev. W. I. Brooks...... 482
Best "Swarm of B's"............................ 482
Honey Exhibit of Aaron Coppin.... 482
Honey-Producers' League....................... 482
National Bee-Keepers' Association............. 482

Sketches of Beedomites—

Hambaugh, J. M.......... 483

Contributed Special Articles—

Breeding Queens—How and When to Select Them 484
Comb Honey and Natural Swarming........... 485
Queen-Rearing and the Prevention of Increase 485
Rearing Queens—Dangers of Mixing Races.... 483
Rendering Beeswax and Bee-Glue.............. 485

Southern Beedom—

Bee-Paralysis and "Cures"......... 486
Progeny of Golden Queen and Black Drone (?) 486
To Rid a Colony of Laying Workers....... 486

Canadian Beedom—

Agricultural Associations Act... 487
Educate the Public on Honey..................... 486
Spring Notes on Bees.............. 487
World Value of Clover.......................... 486

Our Sister Bee-Keepers—

Clipping Queens' Wings—Why and How........ 487
Number of Colonies and the Location......... 487

Mr. Hasty's Afterthoughts—

Another Tall Assistant Editor............... 488
Cow-peas in the North 488
Formaldehyde in Molasses........................ 488
Honey Above the Hive-Entrance................ 488
Larger Baby-Nucleus Methods................... 488
Ohio Foul Brood Law..... 488
Properly Speaking of Hybrid Bees.... 488
That Firm of "Doll-ies"....... 488

Dr. Miller's Question-Box—

Albino, Punic and Holy Land Bees............. 488
Best Hive-Cover................................... 488
Bitter Honey.............................. 489
Comb-Honey Management....................... 489
Italianizing Black Colonies..................... 489
Perhaps a Laying Worker....................... 488
Preventing Bee-Moths, Worms and Roaches... 488
Putting on Supers................................ 488
Requeening...................................... 488
Transferring.................................... 488

Reports and Experiences

Getting the Honey Now........................ 489
Good Queen..................................... 489
Honey-Flow Has Begun............ 489
Iowa Pure Food Law........................ 4-9
Late and Backward Season................... 489
Lost from Lack of Stores........................ 491
Moving Bees 489
Prospects for a Good Season.................... 489
Season Late in California...................... 489
That Method of Swarm Control.............. 490
Too Cool for Bee-Work 489
Wiring to Prevent Sagging of Comb Foundation 490
Working in Supers.............................. 489

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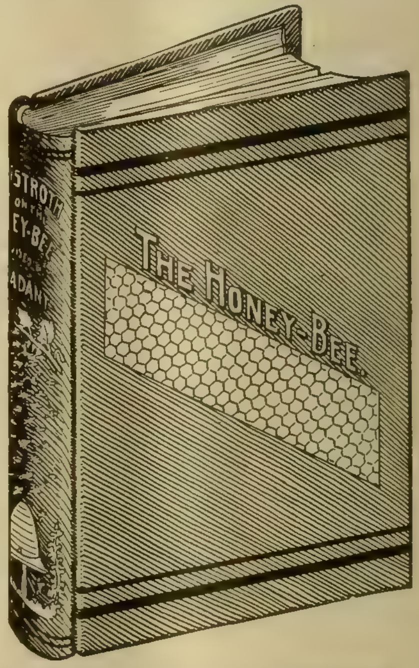

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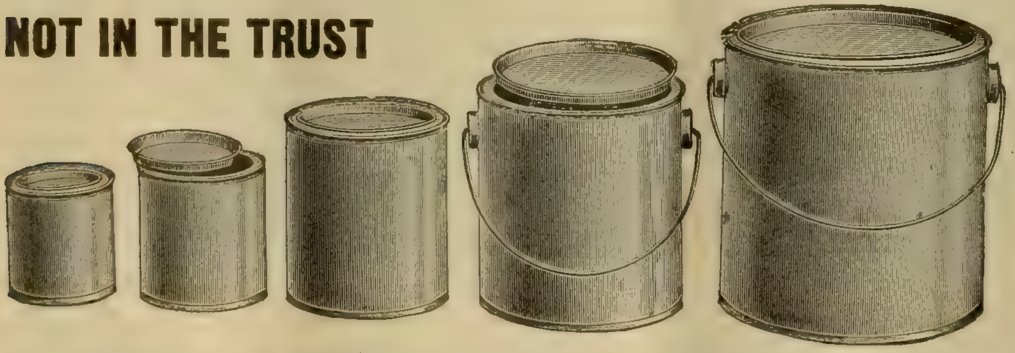

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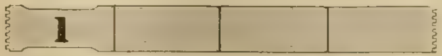
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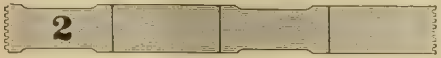
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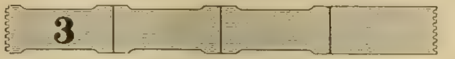
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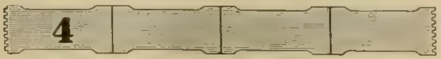
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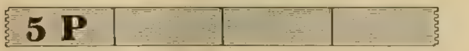
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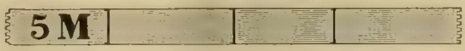
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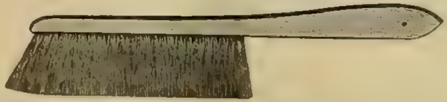
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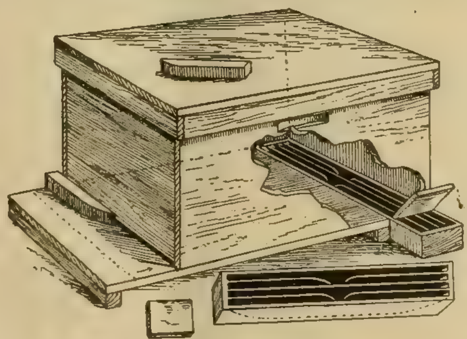
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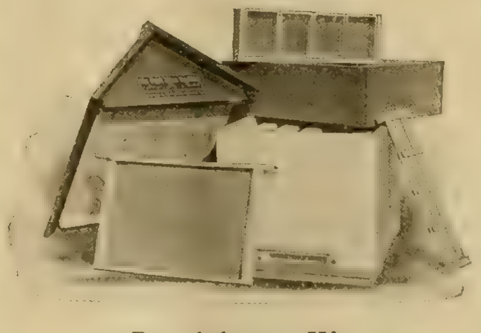
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GEORGE W. YORK, Editor CHICAGO, ILL., JUNE 7, 1906 Vol. XLVI—No. 23

Editorial Notes and Comments

Bee-Keeping in the Public Press

More and more is bee-keeping written about in the magazines and newspapers of our country. And often there are fully illustrated articles that can not help drawing the attention of the public to honey and its production. Whatever familiarizes reading people with the methods of honey-production will also tend to interest them in the use of honey as a food. So in the end it will help the honey-producer.

It is quite possible that it may also induce a few people to become bee-keepers, but we don't believe the producers of honey want to be considered "close communionists," and would prevent any one from keeping bees if he desired to do so. There are some trades, we believe, that are making it very difficult for a beginner to learn. What selfishness! We are glad that the great majority of real bee-keepers are not like that. Why, this is "the land of the free, and home of the brave."

Mice, Honey, Doolittle, Hasty, and Miller

The following appeal comes from Dr. Miller, who seems to think he has been "stood up" by Mr. Doolittle:

> Please, Mr. Editor, why does Mr. Doolittle stand me up in a row beside that man who thinks afterward, and throw rats, chipmunks and things at me, on page 403? ["I don't know."—EDITOR.]
>
> We weren't talking about all those other things—just house-mice. And please look at what I said, and see if I said a word on Hasty's side. Why, one of the things that I have had for years stored away on the memory-shelf that is labeled "positive knowledge," is the fact that mice not only nibble off the cappings, but gouge big holes in the solid combs out of which they eat the honey—not unripened, watery stuff, either, as Mr. Hasty suggests (page 368), but sealed honey; and lacking a mouse-proof room in which to pile sections, I have set dishes of honey on the floor to keep the mice from chipping the cappings of the sections.
>
> Please look it up, and see whose side I stand on.
>
> C. C. MILLER.

Some one has said that language was invented to conceal thought, and it seems to be so to some extent in the present case. Reference to what Dr. Miller said on page 308, shows pretty clearly that he was misinterpreted by Mr. Doolittle, when the latter wrote the article on page 403. On page 254, Mr. Hasty said, "Doolittle is usually accurate, but I am unreasonable enough to entertain some doubts whether he is perfectly sound on mouse-diet." On page 308, Dr. Miller claims to paraphrase this sentence, quoting it word for word except the one word "Doolittle," in place of which he puts "a certain gentleman whom I hold in high esteem." This was, no doubt, intended as a neat way of turning upon Mr. Hasty in his own words, the charge of unsoundness on mouse-diet that he had made against Mr. Doolittle. Then he suggests to Mr. Hasty an experiment that he evidently thinks will prove to that gentleman that mice are honey-lovers.

Mr. Doolittle takes exception to the proviso in the proposed experiment requiring the presence of "food in abundance, but nothing sweet except" honey. It is true that such abundance of food is not generally given, as Mr. Doolittle says, but the proviso is entirely germane, for Dr. Miller evidently wants to show that the mice were not starved into eating honey.

The testimony of Messrs. Doolittle and Miller seems strong and conclusive except that there is still the possibility, as Mr. Hasty suggests, that the mice are taking the honey for the water it contains. So he might vary the experiment by setting two dishes side by side, one of extracted honey and the other of water.

Smartweed Honey

On page 390, Dr. Miller inquired whether honey from the true smartweed (*Persicaria punctatum*) was acrid in taste. Ralph P. Fisher writes that in his locality, Great Meadows, N. J., both heartsease and smartweed grow in large quantities, and he thinks that throughout the Eastern States wherever one is present the other is (in the West is not the heartsease often found alone?), and the honey stored by the bees will be found a mixture of both, in character as described in "A B C of Bee Culture"—"light colored and of good flavor." From this it may be inferred that the honey from the true smartweed is not acrid.

Mr. Fisher thinks bees prefer to work on the heartsease, which, in cultivated ground, grows as high as one's head, while the smartweed is always short and rank.

Deep Bottom-Boards for Wintering

The editor of the Canadian Bee Journal says:

> Outside winterers have had rather the best of it last winter.
>
> We are more than pleased with the results of the deep bottom-board, giving a $\frac{3}{4}$x$12\frac{1}{8}$ space under the frames and a corresponding entrance. The wintering case and packing of forest leaves of course contracted the outer entrance to 4x$\frac{3}{4}$. Every hive fitted up in this way came out clean and dry, and there was quite an apparent difference between these and a few with $\frac{3}{8}$x$12\frac{1}{8}$ space and similarly contracted.

Deep bottom-boards for winter seem to be growing in favor on this side the line, perhaps more especially for cellared bees; but some are not satisfied with a depth of $\frac{3}{4}$ inch, preferring 2 inches.

Bees Building Comb Over Wires

> "Natural comb built below the starter will be built over the wires." To the above clipping from Gleanings, Dr. Miller adds the comment, "Yes, but the wire will not be in the septum." Glad you have mentioned it, Doctor; have noticed this for some time, but from the fact that the "big guns" are continually telling the greenhorns that the practise is all right, thought perhaps my bees behaved out of the ordinary.

So says J. L. Byer in the Canadian Bee Journal. Mr. Byer's bees are probably not unlike others in this respect. They build down vertically; if there is a starter of foundation at the upper part of the frame, and nothing but wires below, those wires will be found in the septum if the wires are put in perfectly true and perfectly plumb; otherwise not. The chances are not by any means always in favor of the wires lying in the same place, and that plane exactly perpendicular, so a good part of the wire may be expected to lie out of the septum.

Does Heat Escape from the Bee-Cluster?

Referring to page 272 of this Journal, J. L. Byer says in the Canadian Bee Journal:

> When Mr. Doolittle says the outside of the cluster "really forms the hive proper," many, no doubt, will think this a strong argument against going to the trouble of giving cellar-wintered bees any protection in the spring. Why not carry the case to the extreme, and not give even the ordinary hive protection? All know that a colony, say, for instance, on a limb or fence-rail, can not rear brood in cold weather. While Nature has made it possible for bees to maintain a high temperature under adverse conditions to a wonderful degree, yet *heat does escape* from the top of an unprotected hive. It is a well-known fact that a strong colony with single-board cover will in the early spring throw off enough heat to melt the frost from the board cover. If the heat doesn't escape, what causes the frost to disappear?

Exposing to Air Hastening Granulation

Mr. Holtermann said at the Ontario convention that he runs his honey directly from the extractor and corks it up, because he finds that it remains liquid much longer than if exposed to the air in a tank.

Miscellaneous News ✣ Items

National Bee-Keepers' Association.—Since the last Annual Report was published the General Manager, N. E. France, has received $139.50 from advertising that appeared in the Annual Report, and $577.50 on membership dues, making a total of $717. From the State of New York alone he has received 33 memberships at a full dollar each. This is indeed a very encouraging report.

* * *

The Honey-Producers' League, by an almost unanimous vote, decided to turn its funds over to the National Bee-Keepers' Association, which has been done. There was a net balance, above all expenses, of $1408.27, which the League's Treasurer forwarded to General Manager and Treasurer N. E. France, of the National.

The League was organized through the very best of motives, as we know, and might have been a great help to all honey-producers had it been able to carry out its objects; but a sufficient number of bee-keepers did not become members so that it could conduct the work in their interest, which it proposed to do. It is unfortunate in one way, and yet if the National shall follow up the original purposes of the League, some good may yet be done through the fund turned over to it. It now has the opportunity, and also some money. So, perhaps, the League was not organized in vain, after all.

* * *

The Apiary of Rev. W. I. Brooks appears in a pictnre on the first page. When sending us the photograph Mr. Brooks wrote thus:

> I am sending a picture of my apiary, situated in the yard between the house and barn, and containing 15 colonies of bees. I am now in my 52d year, and have kept from 1 to 30 colonies of bees for 30 years. There have been some short periods during that time that I have been without bees.
>
> I am a Presbyterian minister, and have lived, since 1883, in Kansas and Nebraska. I have never lived in a first-class honey-producing locality, but in exceptional years I have averaged a yield of from 30 to 80 pounds of surplus honey to a colony.
>
> Bees wintered well here the past winter, and there is now an abundance of fruit-tree bloom for them to work on. Our main dependence here is alfalfa and heartsease. There is also some white and sweet clover, and some wild flowers, besides fruit-bloom. Several times, when we have had to move, I have sold my bees and resolved never to get any more; but I have never been able to resist the temptation to stock up again. I delight to work with them, and did I live where they were fairly sure to give fair returns, I would doubtless greatly enlarge my apiary.
>
> Two years ago I visited Phœnix, Ariz., where I found an ideal bee-country, in my judgment. But I have been surprised that it is so little heard from through our bee-papers I do not remember ever seeing an article from this Salt River Valley section. I visited one apiary while there containing 250 colonies. The owner told me that within a radius of 3 miles from his place there were 3000 colonies. He run altogether for extracted honey, and had in his store-room, from one year's crop, 167 crates of 120 pounds each—20,040 pounds. He expected to realize 5 cents a pound for it at Phœnix, 3½ miles away.
>
> One man said, "One year I kept an account, and there were only 3 days the bees did not fly;" and that he had "taken as high as 1500 gallons of extracted honey in one year." There the bees, of course, need no protection from the cold, only shelter from the sun in the summer. It is an irrigated country, and much of the honey is gathered from alfalfa, although the blossoms on the desert afford considerable nectar. I am contemplating making my home in that section in the near future; when there I hope to enlarge my bee-business greatly. I would be glad to see something from that region in the American Bee Journal.
>
> The persons shown in the picture I am sending are myself and my 2 youngest in a family of 8 children, 6 of whom are boys. The 2 shown are Mary, 8 years, and Wallace, 5 years. W. I. BROOKS.

* * *

The Best "Swarm of B's" ever known if "hived" in the mind and "worked" for the best "surplus" results possible, we think will be found in the following, sent to us by Aug. F. Koch, of Iowa:

> EDITOR YORK:—The enclosed "swarm of bees" came to the drug-store wrapped around a bottle which was to be refilled. I thought it might interest you to learn something about these gentle be's;—(they beat the Caucasians, I am sure)—so I send it. AUG. F. KOCH.

A SWARM OF B'S.

B hopeful, B cheerful, B happy, B kind,
B busy of body, B modest of mind,
B earnest, B truthful, B firm, and B fair,
B ut of all miss B havior B sure to B ware.
B think ere you stumble, of what may B fall;
B true to yourself, and B faithful to all.
B brave to B ware of the sins that B set;
B sure that one sin will another B get.
B just and B generous, B honest, B wise,
B mindful of time, and B certain it flies.
B prudent, B liberal, of order B fond,
B uy less than you need B fore B uying B yond.
B careful, but yet B the first to B stow;
B temperate, B steadfast, to anger B slow;
B thoughtful, B thankful, whatever B tide;
B just and B joyful, B cleanly B side.
B pleasant, B patient, B gentle to all,
B best if you can, B humble withal;
B prompt and B dutiful, but still B polite,
B reverent, B quiet, B sure and B right;
B calm, B retiring, B ne'er led astray,
B grateful, B cautious of those who B tray:
B tender, B loving, B good and B nign—
B loved shalt thou B, and all else shall B thine.

* * *

A Honey Exhibit of Aaron Coppin is shown on the front page. Mr. C. says this concerning it:

> This is probably not quite half of our honey exhibit at the Illinois State Fair in 1905. As the picture shows only the center of the display, the design is not brought out as it would have been otherwise. There were about 600 pounds of honey in the display.
>
> The size of the sections are 4¼x5x1¼, split in the center, and a full sheet of foundation used, fastened on all 4 sides by pressing the two parts of the section together; that is why the sections are so well filled. The surface of the honey is larger, and they are perfectly filled, with no peep-holes in the corners. Honey in these sections have always been awarded 1st Premium every place they have been exhibited, which includes the Illinois State Fair the last 3 years.
>
> The letters on the bottom were designed in honey built by the bees, and reads as follows: ILLINOIS STATE FAIR. IN GOD WE TRUST. Also my name and address. A. COPPIN.
>
> Wenona, Ill.

Having been the judge one year at the Illinois State Fair when Mr. Coppin had an exhibit there, it was our pleasure to award him the 1st Premium on comb honey. It was a very fine lot of honey.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued in April. The complete new 344-page book, bound in cloth, is sent postpaid for $1.00; the Appendix alone for 10 cents. Or, the book and the American Bee Journal a year—both for $1.80; the Appendix and the American Bee Journal a year in advance, $1.00. Send all orders to the American Bee Journal office.

Sketches of Beedomites

J. M. HAMBAUGH

Some weeks ago we announced the death of Hon. J. M. Hambaugh, once a leading bee-keeper in Illinois, and later residing in Southern California. Mr. Hambaugh was born in Versailles, Brown Co., Ill., July 16, 1846, being nearly 60 years of age at his death. His father was one of the first settlers in that part of the county, where, at one time, he and his brother owned about 900 acres of land, and was known as one of the best farmers of the time. In 1842 the father was elected a member of the Illinois Legislature.

Joseph M. Hambaugh, the youngest of the family, remained on the old homestead until he was 50 years of age, when he was forced to leave for a warmer climate on account of failing health, going to Escondido, Calif., where he lived until his death. In 1890 he also was a member of the Illinois Legislature. For many years he was prominent in bee-keeping organizations, being President of the Illinois State Bee-Keepers' Association, and he, with James A. Stone, the present Secretary of the Illinois State Association, prepared and installed the Illinois apiarian exhibit at the Columbian Exposition here in Chicago, in 1893.

Mr. Hambaugh left a wife and 4 children to mourn his loss, 2 children having passed on before him.

He removed to California with his family in 1895, where he bought a fruit and grain ranch in the beautiful Twin Oaks Valley. He also established an apiary near his home, to which he devoted most of his time. For the past 2 years his health has not been good, a cancer developing on his neck and causing his death on April 5, 1906.

The first notice we received of the death of Mr. Hambaugh was from G. F. Merriam, who knew Mr. H. in his California home. Referring to the cancer which resulted in his death, Mr. Merriam wrote as follows on April 17:

> It is a pitiful case. Mr. Hambaugh was first taken a year ago while in Nevada attending his bees. He came home last July, went to Los Angeles last fall, but had to give up work. He thought the cancer was simply a tumor, and was taken to a hospital in Los Angeles to have it removed. There they told him it was a cancer, and a hopeless case. They would not cut it out, saying he could live only a short time. Then he asked to be taken home to his family, and died in about 3 weeks. G. F. MERRIAM.

Mr. M. H. Mendleson, perhaps the most extensive bee-keeper in Southern California, and also a Director of the National Bee-Keepers' Association, referring to Mr. Hambaugh, says this:

> I was very sorry to hear of Mr. Hambaugh's death. He was a good man, and it must have been hard for him to part from his friends and family. It is a hard death to die. M. H. MENDLESON.

We were personally acquainted with Mr. Hambaugh, and held him in very high esteem. He certainly was a successful and enthusiastic bee-keeper, and did all he could to advance the pursuit in which he took so deep an interest. We last met him at the National Convention held in Los Angeles, Calif., in August, 1903. We had not seen him for 10 years. He had aged somewhat, but was the same genial bee-keeping brother of other years. He will be missed in the conventions of bee-keepers, and most of all in the family circle where he was so greatly beloved.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Contributed Special Articles

Rearing Queens—Dangers of Mixing Races

BY DR. G. BOHRER.

I SEE by the advertisements of a number of queen-breeders that they are to breed and put on the market queens of different races of bees—Italians, Caucasians, Carniolans, Cyprians and the Holy Lands. Now, while it is possible to breed these different races and keep them pure, it is not altogether probably that all queen-breeders will succeed. At any rate, I feel quite well convinced that, in the past, amalgamation has been going on through rearing queens of different races in apiaries situated 3 to 6 miles apart.

I purchased my first Italian queen in 1864 from Rev. L. L. Langstroth, and in 1866 I purchased another one from him. And while I then got the impression that the Italians were not a distinct race of bees (in which view Mr. Langstroth concurred), I now am much disposed to think that in the matters of size, mildness of disposition, and uniformity of color, there had not been any improvement since the '60's, as far as my observation has afforded information touching these questions.

Very many queens sent out from a number of queen-breeders do not duplicate themselves in their queen progeny uniformly; quite a number of them show a dash of foreign blood, while many of their workers do not show 3 distinct yellow bands, and some of them but 1 distinctly. This shows black blood. Others show the 3 yellow bands uniformly, but in disposition are as cross as they can be, and are very hard to subdue. Besides, they are not as large as the queens I reared during the '60's. The bees I then reared I handled much of the time without bee hat or gloves. In fact, I never put on gloves while I kept bees in Indiana, which I did until the fall of 1873, when I moved to Kansas, and kept no bees from that date until 3 years ago.

During the past 3 years I have gotten queens from different breeders, and as far as I know, all of them are up-to-date breeders and honorable gentlemen, so that I have no fault to find with their efforts at pure queen-breeding. But unless the apiaries in which they breed queens are located from 5 to 10 miles apart, I think it highly probable that mismating is going on to a greater or less extent all the time. The result must be no improvement in color where Carniolan blood is by this means bred into the queens reared, but the inclination to over-swarming is cultivated, as I understand the Carniolans are too much given to swarming to be profitable as honey-gatherers.

Where Cyprians are reared within reach of Italians an ill-temper will creep in, which, while it may not injure their habits as to energy, does make them undesirable to handle. Besides, I understand the Cyprians are slightly smaller than the best Italians, so there will be no advantage in such a cross, either in favor of size or disposition. But the tendency is to dwarf the offspring, and, if there be any real difference in the matter of long or short tongues, the longest tongues will be found among the higher grades of the Italians, which race of bees, with careful breeding in apiaries situated so far from all other races of bees or poorly bred stock of Italians that there is no possibility of amalgamation, will, in my judgment, bring the most desirable results.

Instead of sending out Caucasian queens from the Entomological Department at Washington, D. C., as Dr. Phillips proposes to do, I would add another specification to the deal, namely, I would require those receiving the queens he sends out to keep them during the honey-flow and breeding season at least 10 miles distant from all other bees of whatsoever kind, and require a careful record to be kept concerning their qualities in disposition, size, and honey-gathering. Then, by comparing results with the results from the best grades of Italians, we could derive information that might prove advantageous to the bee-keeping public generally.

When I began queen-breeding, in 1864, I had not seen, nor heard of the 4 and 5 banded Italians, nor have I been advised as to where they were imported from, or whether they are the result of rigidly selecting the brightest colored queens for breeding purposes from the highest grade of purity found among the Italians. If this course has been pursued, and Cyprian blood has been entirely excluded, I can see no good reason why the 5-banded Italians should not prove to be the most satisfactory bees to keep. But in all cases where Cyprian blood has been permitted to creep in, their "hand-writing" is quite likely to show up in the way of most undesirable fighting qualities. I got 2 of these golden queens, the worker progeny from both of which were reasonably quiet when being handled, but I have been informed that some of these bees are as cross and wicked as bold hornets.

Now, I hope not to be taken to task by our queen-breeders for speaking as I do concerning the grades of purity among Italian bees; for they all, or nearly so, advertise tested queens at one price and breeders at another, which means, of course, that unless a queen has been tested by her queen progeny and found not only to duplicate herself in point of color, but to repeat it in perhaps hundreds of cases, and possibly improve her queen offspring in both size and color, she is not looked upon as being a thoroughbred queen, so that it is most unquestionably true that more or less of mixed blood exists among our Italian bees. And for fear of doing a positive injury to our bees. I will urge queen-breeders not to tamper with Caucasian bees until they have been fully tested in isolated localities. When I say isolated, I mean, to test them in apiaries so far apart that there can be no possibility of crossing them with other bees, for I feel fully justified in saying that the highest grade of Italian bees the bee-keeper who gives them proper care in a good honey-producing locality will have good reason to be fairly well satisfied with results.

In the meantime, I would not by any means discourage carefully conducted experiments, but as conducted in many cases so far, I regard the results as being far from satisfactory, the Italians, Carniolans and Cyprians being mixed to the detriment of bee-keeping.

In conclusion, I wish to state that I have no queens for sale, and never expect to have. I am keeping bees for the pleasure I find in it, and if possible for the betterment of bee-keeping interests. Lyons, Kansas.

⁂

Breeding Queens—How and When to Select Them

BY HENRY ALLEY.

THE most important thing in connection with queen-rearing is the selection of the mothers for both the young queens and the drones to be used. The selection of the breeding queens should be made the season before they are to be used. Even then all that should be done can not be completed until the following season, as it is actually necessary to test all breeding queens by rearing more or less daughters from them. Not only should the mothers of both drones and queens be very prolific, but their worker progeny be uniformly marked, and be great hustlers for honey, etc.

For breeding queens, select the best from among the best and most promising in the yard. This is about all that can be done until a thorough test has been made, even going so far as to test young queens.

I have always made it a practice to rear a few queens the fall before a new breeding queen is to be used. Color, prolificness, and many other points, can be determined by doing this. I am careful to test the drones to be used, in the same way. I must know months before I use either queens or drones what I am to get by certain combinations of blood.

In any event select only the finest queens for breeders. The principal points to look for are these: See that a queen puts but one egg in a cell, and that the eggs all cant the same way—point down. The eggs should be large and quite plump. Now this may seem to some bee-keeprs rather fussy. I am able to see a great difference in the size of eggs laid by different queens. By close examination any one can see that some queens lay quite small eggs, while others deposit eggs nearly twice as large. When I find a queen whose eggs are small, and canted in all ways but the right way, her head comes off quickly, as such queens are worthless for any purpose.

Queens that produce gentle bees, and bees that have quiet dispositions, have some claims as breeders. Some queens do not produce bees that can stand long and hard winters. Such queens should not be used for any purpose. I have had queens that produced bees that would winter with the loss of hardly any bees. But they were not very good honey-gatherers. Really, it is quite a scientific undertaking to select a good breeding queen.

In the above I have given a few of the necessary points in selecting a queen-mother. I believe the more important of the two is the selection of the drone mothers. My experience shows me that both bees and queens inherit their good points from the drone-bee. I do know that drones not handsomely marked, even when they are from golden-colored mothers, will not produce handsome bees when mated to handsome queens. Drones that are nearly all yellow will produce 5-banded bees. No others have done it in my yard. Now this is one thing that surely shows that from the drone-bee comes the color or beauty of the worker-bee. I am well satisfied that from the drone comes all the good points of the worker-bees. By transmission from the male or female we get all the desirable points in breeding animals—such things do not appear to come equally from both parents. In no event select breeding queens simply because they produce beautiful bees and queens. Color is all right if the other points come with it.

Here is another good point to be observed when selecting a breeding queen, or even when selecting a good colony of bees: During the first days of pollen gathering in the spring, just watch the bees for awhile in the middle of the day as they enter the hive with their loads of pollen. It will be found that some colonies carry pellets nearly as large as split peas, while the bees in other hives have pellets about the size of the head of a pin. Now from which of the colonies would you select the queen to breed from? The queen in the hive whose bees are carrying the large quantities of pollen is the best one. The large amount of pollen going in shows that the colony has a very prolific and vigorous queen. Colonies that use but a small amount of pollen have old or very inferior queens. Such hives contain but little brood, and the bees have no use for pollen.

Even queenless colonies will carry more or less pollen. But such colonies never carry in large pellets of pollen. Queenless colonies have no interest in work.

When bees have been working several weeks, if the weather is warm, the hives may be opened and the condition of the brood examined for the purpose of selecting a queen. If every cell, or nearly every cell, in the combs covered by the bees contain eggs or brood in some stage, this is one good point in favor of the queen. If the combs have more or less honey in them, while other colonies that seem strong have little or no new honey, that is another good point.

It is not necessary for the practical bee-keeper to open a hive to know that his bees are gathering honey. This he knows by the way the bees are working. When bees are gathering honey, they rush in and out of the hive as though they had but a few days to live, and no time must be lost. When bees are carrying water only, they do not work with so much vigor as when honey is abundant in the fields.

Some races of bees will fill the brood-chambers with honey, and do that, too, before some other colony gets to work. But such bees refuse to enter the supers, and the next thing they do is to swarm. Such queens will not do for breeders.

Then, again, there are colonies that not only fill the brood-combs with honey, but are working in the supers, and the first thing the bee-keeper knows about it is, the sections are nearly full. That hive contains a queen that is suitable for a breeder.

I want queens that will fill all the brood-combs with brood, and when the honey season comes on the bees to quickly enter the sections and fill them with the first flow of honey. Colonies that do this are the ones to propagate from.

Bees that persist in clustering outside the hive, and refuse to enter the supers when everything is favorable for them to be gathering honey, are worthless, and the queens in such colonies should be destroyed.

Now about the disposition of bees. I am not very anxious to have bees that do not have life enough to sting when they think they should be on the defensive. Usually the bees that are ready to "bite" a fellow come from the strong and vigorous colonies. Haven't you all noticed this? Don't be afraid of a few bee-stings. We all know at this age how to handle bees and get but few stings. For my use I would not reject a queen as a breeder if her only fault was in the fact that her bees were a little cross. Nor would I use a queen to breed from if her colony were bound to sting every time one went into the bee-yard. Such colonies spend their time in hunting up some one to sting. I have had a few black bees that seemed always on the wing, ready to "go for" the first person who entered the apiary.

The yellow races of bees do not, as a rule, use their stings so freely and vigorously as black bees. But who cares for black bees? No one wants them, but the 'way-back bee-man—the fellow who doesn't read the bee-papers.

To give further evidence that the peculiarity of a race of bees is transmitted to future generations through, or by, the drone, I will relate my experience with a few drones I bought from a distant apiary to mate a few queens. I found these drones and bees 20 miles from my apiary. I took home about 100 drones. The color of drones and bees was nearly an albino—in fact, the drones seemed to be covered with white hair. When the bees hatched from the Italian queens mated to these drones, I found them a clear albino bee, and very handsome. It will be seen by this that it requires as much care in selecting a drone-mother as it does the queen-mother.

A. I. Root once told his readers not to pay any attention to color of drones. That was all right if it was necessary only to rear bees. But I have an idea that his remarks related to color only. If we are looking for the best results in breeding bees, the selection of the drone-bee must be looked after sharply. Essex Co., Mass.

Rendering Beeswax and Bee-Glue

BY F. GREINER.

DURING a recent long-continued storm I have looked over a lot of extracting combs, culled out the poorest and rendered them with other scraps, etc., into wax. The conclusions I have formed are these:

I am getting pretty fair pay for my time when making wax, but I am getting very little for the combs treated. In other words, the wax I am able to make only just about pays for the time it takes to get it. I can make but about three runs with the German steam wax-extractor, and the amount of wax at the end of the day will be about 15 pounds. It is a mussy job and I would gladly give any man half or more of the wax that he might be able to boil, squeeze, extract or get in any way out of the stuff, providing I had nothing to do about it.

It is detestable work, anyhow. Such scraps as can be rendered by the solar machine I am willing to work over, but this old-comb business I would like to get rid of. I think I shall build a large solar extractor and make my wax so in the future. I don't expect to obtain very much that way, but it will be nice, and there will be less disagreeable work and waste of time.

By way of suggestion, there are just a few men who know how to make beeswax at a profit. They obtain all the wax there is "in it." They even work slumgum over at a profit, and assure us that it contains ¼ or more of its weight in wax. Now, I don't question the veracity of these gentlemen, but it seems to me that they are just the men to go into the business of making up our wax. I would take a very small share of what they could squeeze or get otherwise out of my combs. They ought to be able to make money out of such a business; besides, they would render the bee-keepers a valuable service. An establishment of this kind run on a large scale could be run much more economically than we bee-keepers are doing it. If this thing should materialize, I should be glad enough.

It is not my intention or desire to advocate wasteful methods. On the other hand, I feel that the bee-keepers must be saving. Wax is a valuable and indispensable product, and we ought to produce more of it.

A few pounds of wax per year mean very little to each bee-keeper individually, but in the aggregate it means thousands of pounds and dollars. Can we save them?

In the matter of wax-making, the often accumulating propolis has apparently received no attention. It contains quite a little nice wax. I have known instances where the propolizing of sections, etc., was done with pure wax. In fitting our section-honey for crating—which means scraping the sections with the knife—a great deal of propolis accumulates on the work-bench and on the floor. Then again during the winter, when we clean section-holders, fences, supers, etc., from the sticky stuff, a number of gallons are swept up from the floor and work- table. Formerly this was burned up just to dispose of it. In examining some of this material the past winter it appeared to me as containing quite a percent of wax, and for the sake of the experiment I filled an old iron-kettle with it, placing it on my shop-stove. I was attending to some other work at the time. When the stuff had melted I kept dipping off the clear beeswax. Then I discovered I could just pour the wax off.

Propolis is very heavy. It will sink in water. Wax is lighter than either propolis or water, consequently these substances could be separated by their specific gravity if they could be brought all together to the fluid state. Unfortunately, propolis does not melt at the boiling point of water, and it is therefore not practical to bring the propolis to the melting point while in water. When propolis is in powder form the wax which it contains will, to a great extent, separate from it in the hot water bath, and if left to cool the wax will about all be on top of the water, the propolis being found at the bottom.

From a mess of saved-up scrapings, such as always accumulate while getting section honey ready for crating, I obtained fully 25 percent, by weight, of beeswax of a beautiful color. If there should be among the 500,000 or 600,000 bee-keepers only 1,000 of them who are similarly situated as I am, and will save the scrapings spoken of, with very little trouble they each may obtain 5 or 6 lbs of nice wax, worth $1.50—the price of several good bee-papers—and not be out one red cent. This would mean the saving of $1,500, or possibly an enlarged number of readers of the American Bee Journal or other bee-periodicals.

What pleased me most was not the saving of a few pounds of wax, but the discovery that beeswax and bee-glue could be separated easily from each other.

Naples, N. Y.

Comb Honey and Natural Swarming—Queen-Rearing and the Prevention of Increase

BY "BLOOMFIELD."

THIS article is intended for beginners who have but a home apiary, and that with a limited number of colonies, and who operate for comb honey. Under the conditions named, the best results will be obtained by natural swarming, for while it has some disadvantages, the advantages predominate. The golden rule of bee-keeping is to "Keep your colonies strong" and undivided as much as possible. Under natural swarming, some colonies will not swarm at all, and these are precisely the colonies that give the greatest yield of surplus honey. This is a distinct and important advantage, for increase of colonies is always obtained at the expense of surplus honey. This is so nearly universally true that the exceptions need not be considered.

To keep down increase of colonies, and rear the best queens from select stock, is the next thing to be aimed at. To accomplish this double purpose, proceed as follows:

Early in the spring practice stimulative feeding with one or more colonies, that contain the best strain of bees. Use judgment as to the number of young queens you will require under the circumstances. When one of the best colonies swarms, which you have stimulated and induced to swarm early, hive it on the old stand. This swarm contains an old queen, but as she is one of your very best, she deserves to live another year, unless her bees supersede her. We are now done with this swarm, and will not again refer to it.

Open the hive of the parent colony and see how many good queen-cells it contains, and how many nuclei you can safely break it up into. Use judgment. These queen-cells have been reared under the impulse of natural swarming, in full colonies, from select stock, and they will produce the very best of queens, long-lived and prolific.

Move the nuclei thus started to other locations. In each, hang a Doolittle feeder of sweetened water or weak syrup, close the entrance with wire-cloth, and confine the bees for 3 days, and give them only a limited amount of ventilation.

Later in the season, when one of your common stock swarms, hive it on the old stand on starters, with a queen-excluder above, and the supers over all. Give plenty of super-room. Open the hive of the parent colony and brush off all the bees in front of the swarm. This swarm is now a "hummer," and should produce large quantities of surplus honey in the supers. If you are afraid they will swarm out and decamp, give them plenty of ventilation, and put a queen-guard at the entrance for 3 or 4 days. Take the combs from the parent colony, and distribute to the nuclei, putting all, or nearly all, sheets of sealed brood into one nucleus, and thus make sure it will rapidly become a strong colony. As you have these frames of comb from common stock in your hands, before putting them into a nucleus, you would better destroy all queen-cells found on the combs; and thus save the young queen in the nucleus the trouble of doing so.

When the young bees begin to hatch out in the strong nucleus, move it beside the "swarm" that I have designated the "hummer," and face the same way. Now wait and watch. As the old field-bees begin to die off, the swarm will rapidly grow weaker, as it has no hatching bees to take their place and in the meantime the nucleus has become a strong colony.

When the proper time comes, (use judgment), take the supers off the swarm, and transfer them to the nucleus; having previously given both colonies the same scent. A sliced onion, or camphor-gum, shoved under the brood-frames of each will do it. Move the swarm to the opposite side of the nucleus, facing swarm to rear. In 2 or 3 days bring the swarm around so it will face the same way as the nucleus. Now open the swarm, and kill the old queen; she will be readily found, as she will not have many bees with her; brush whatever bees she has in front of the nucleus, and take away the hive that contained the swarm.

If the starters that were in the swarm have been drawn out to any extent, use them to replace the frames of sealed honey that you take from colonies for winter feeding; or rather for spring feeding. Repeat as other swarms issue.

Thus we have the greatest yield of honey per colony, and have reared the best of queens from select stock, and have prevented increase, or reduced it to a minimum.

Davis County, Iowa.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Progeny of a Golden Queen and a Black Drone (?)

Is it possible for a 5-banded queen, mated to a black drone, to produce *all* 3-banded workers? I think I have such a case.

Glennville, Ga. H. C. Barnard.

Yes, in some cases. In one of my yards of blacks, golden queens were used to improve the stock of this apiary. Daughters of these goldens were mated to black drones, and in several cases the resulting progeny were the most evenly marked 3-banded Italians. The majority showed a great variation, however, some of the bees being almost golden or 5-banded, while others of the same colony were as black as their black ancestors on the male side, and variations all the way between.

Another thing that came to my notice was this: If the mating of a queen does not affect the drone progeny, how does it come about that drones from a *pure golden queen* will vary if mated to a black drone? They should all be golden drones, but they were not.

To Rid a Colony of Laying Workers

Will you please tell me your plan of ridding a colony of laying workers, and getting a queen in their stead?

In some way 2 of my colonies, about 16 or 18 days ago, lost their queens, and before I had discovered the loss they both had laying workers. I have given them 2 different combs containing eggs and larvæ, but they refuse to build queen-cells and rear a queen. In fact, I have tried all the plans I ever heard of, including those given in the book "A B C of Bee Culture," but with no success.

If you can give me any assistance or advice, I will certainly appreciate it.

J. W. Simmons.

Quite a number of hives were used in experimenting with colonies of laying workers at the Texas A. and M. College apiary several years ago, and many "remedies" were tried with the result that it was finally concluded that the best thing to do with such colonies is to break them up and distribute the combs among other colonies, then to build up a new colony in place of the one that contained the laying workers.

In most cases such colonies are, or have, become rather weak, hence of not much value, and still decreasing in bees until a new queen can be introduced, unless hatching brood is given. If the colony is still populous when laying workers are discovered, it may be proceeded with as follows:

Cover the top of the hive with wire-screen, and over this place an upper story. Place in this a comb with brood, honey, a laying queen and the adhering bees taken from a queen-right colony. Let them remain over the screen 2 or 3 days, when the screen is to be removed and the colony will have a laying queen.

Sometimes we have trouble with obstinate colonies that persist in destroying queen-cells or virgin queens when trying to introduce them. These may be treated as the above for laying workers. Old or mismated queens that can generally be found in an apiary are splendid for this method, and *if* the plan should fail to work no valuable queens would be lost.

Bee-Paralysis and "Cures"

Mr. L. B. Smith, of Rescue, Tex., advocates the following for this disease, supposing, of course, that the bees are in movable-frame hives:

Most of the complaints about this disease have come from bee-keepers of North Texas, who keep bees in box-hives, or those with frame hives who are not classed with the experienced bee-keeper. He lifts out the combs of brood and honey, bees and all, and sets them in a clean, new hive; notes the condition of the queen, and if she is feeble or failing he destroys her and introduces a new queen. What will be better is to exchange the brood-combs of the diseased bees for those from healthy colonies, especially if the diseased colony is to be allowed to rear their own queen, as he has reasons to believe that the disease is inherited, and not contagious, hence it would reappear if a new queen were reared from brood of the diseased colony.

Mr. Smith then also feeds the bees about a pint of warm sugar syrup at night, with a little less than a teaspoonful of table salt well mixed in the syrup. Salt is sprinkled over the top of the frames and on the bottom-board of the hive. The feeding should be kept up for at least 10 days.

Many remedies have been given as a sure cure for this disease, but as the disease often disappears without any special treatment from the apiarist, he seriously doubts any of the remedies being of much value, and especially so after having tried most of the remedies with varied results.

In our more southern localities this disease generally appears only occasionally in a few colonies, disappearing as soon as new honey and pollen come in.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Educate the Public on Honey

The limited demand for honey, says the Mail and Empire, is responsible for low prices. It is "up to" the bee-keepers to educate the demand. The craze for pure foods makes the time opportune. Let the bee-men explain at meetings, at exhibitions, and through the local press, the advantages of using honey. Get the children interested. A lecture on honey, illustrated by an observatory hive, in the school-house, will accomplish much in this direction.

Honey as Nature's sweet has of late been supplanted by the manufactured article—granulated sugar. Bee-men should turn the tide back to Nature.

World Value of Clover

Cyril G. Hopkins, of the University of Illinois, shows in the Farm, Field and Fireside the great importance of clover in the household economy of the world. He first quotes Sir William Ramsey to show what great efforts are being made to put the artificial production of nitrates from the atmosphere on a commercial basis, in order to produce a cheap fertilizer and enlarge the world's supply of wheat.

> More than 5 years ago, he recalls, Sir William Crookes uttered a warning note that the population of the world was increasing so rapidly that the supply of wheat would shortly not be sufficient to feed it, but said that before we were in the grip of actual dearth the chemist would slip in and postpone the day of famine.
>
> Two processes for the manufacture of combined nitrogen are especially promising, in one of which calcium nitrate is produced, in the other calcium cyanamid. Neither of these materials is without objection. The calcium nitrate, while an excellent fertilizer, is very deliquescent; that is, it has great power to absorb moisture from the atmosphere, and if not carefully protected in air-tight containers it will gradually liquefy. The calcium cyanamid possesses properties which produce injurious effects upon vegetation, so that it must be used with care and applied some time in advance of planting the crop.

Mr. Hopkins then goes on to show that the nitrogen-fixing bacteria, with which practically all the cultivated soils of the world are already abundantly infected, will maintain a sufficient supply of nitrogen in the soil without the purchase of any artificial nitrogen for all time to come, provided the farmers make abundant use of legume crops in rotation with their other crops. "It is impossible to conceive of artificially-prepared nitrogen compounds ever replacing clover and other legumes, because legume crops can be grown and utilized with actual profit entirely aside from the effect produced upon succeeding crops."

There is more nitrogen in the atmosphere above every quarter section of land than is required for the entire annual grain crop of the world. The bacteria "work for nothing and board themselves," living on the roots of clover and transforming free atmospheric nitrogen into combined forms and storing it in the soil for use of succeeding crops.

Agricultural Associations Act

A revision of the Agricultural and Arts Act was passed at the recent sessions of the Ontario Legislature, with some clauses of importance to bee-keepers. It provides among other things that—

4. The membership fee of each association shall be decided by law.

5. The constitution and by-laws, and any alterations therein, must be approved by the Minister of Agriculture.

7. The number of directors, their representation of certain districts or classes of members, and their mode of selection, shall be determined by by-law. This will allow the working out of the plan proposed by me at the last convention of the Ontario Bee-Keepers' Association, and put in the form of a resolution at the Brantford convention later: To let the local associations be district associations, and let each district association appoint its delegate to the Provincial convention with the understanding that said delegate, being the representative of his district, should become the director for that district, of the Ontario Association.

12. The Minister may appoint auditors.

13. Members who have paid up for the ensuing year can vote at the annual meeting, but the Association may by by-law provide that to vote in election of directors membership must be paid at least one week in advance of the annual meeting. This, in some cases, might be a wise provision.

Spring Notes on Bees

Don't "spread brood" until you have been keeping bees and working with them for 10 years. There is not much likelihood of your doing a great deal of it after that time.

It is a mistake to try to run more hives than you have bees and good queens for.

Don't try to rear queens in May unless you are an expert. An expert knows better than to try—in this climate.

A colony with brood on 6 frames at the middle of May this year is a good one. A 5-frame brood-nest is pretty good; a 4-frame one is fair. Anything smaller will probably require help to get ready for clover.

Don't waste time fiddling with very weak colonies.—E. G. H., in Farmers' Advocate.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Our Sister Bee-Keepers

Conducted by Emma M. Wilson, Marengo, Ill.

Clipping Queens' Wings—Why and How

There are several good reasons why a man who keeps bees should have his queens clipped. One of these reasons is intensified in the case of a woman, for it's a harder job for a woman to climb after swarms than it is for a man. The one sufficient reason for clipping queens, if there were no other, is that when a swarm issues with a clipped queen the swarm can not go off. It is true that sometimes the queen may be lost—although not generally—but it is better to lose the queen alone than it is to lose both queen and swarm.

It is not a difficult thing to clip a queen, and a woman is better than a man at doing a piece of delicate work with a pair of scissors. More used to handling scissors.

"The right time to clip a queen?" Any time when it suits your convenience. Early in the season, before a colony becomes very strong, there are not so many bees in a colony to look through. Still, it is a fact that for some mysterious reason a queen will sometimes elude observation when a colony or nucleus is so weak that it seems you can not fail to notice each individual bee. Even when a colony becomes very strong, it is not so very hard to find a queen at any time during the day when a large portion of the population is afield.

Just hold your queen in the thumb and fingers of the left hand, her head pointing to your left, and with a pair of embroidery scissors (although almost anything short of a pair of shears will do) cut off half or more of the two wings on one side. You will wonder to find how easy it is to do, and you will never again want any but clipped queens; but be sure never to clip a queen before she begins laying.

Number of Colonies and the Location

Most of the sisters keep only a small number of colonies, and, no doubt, many a regret is felt at this fact. Yet keeping a small number, provided that no other bees are near by, is not without its compensations. It is well known that in the majority of places the harvest is limited to only a few weeks, sometimes to only a few days. Indeed, the bee-keeper who can be assured of not more than 10 days of heavy flow each year is not so badly off. Not that there is an absolute dearth throughout the whole season, except on the favored 10 days; but that so little comes at any other time in the year, that where a large number of bees covers the field all that is gathered at any other time is used up by the bees for their daily needs, and often they must draw on their reserve stores to eke out the daily allowance. Although it may not be known certainly just what is that daily allowance, it is no doubt far under the mark to say that during the flying season a colony consumes for its own needs 50 pounds of honey.

For the sake of illustration, let it be assumed that the daily bill of fare for each colony during the summer is a half pound of honey. Suppose 100 colonies in one location are just enough to keep the nectar cleaned up each day, and that it is also cleaned up in the hive by the "old folks" and the "babies," so that nothing is left over for storing. At a half pound of honey for each colony, that would make 50 pounds of honey daily. Now suppose, instead of 100, there are only 10 colonies in the same yard, and that they are still able to keep the field cleaned, gathering the 50 pounds daily; that would be 5 pounds for each colony, and after deducting half a pound for the family table, there would be left 4½ pounds as daily surplus. Continue that for 100 days, and the colony would have 450 pounds of surplus as its season's work.

Of course, it is not fair to assume that the 10 colonies could always keep the nectar cleaned up, but it might come close to it, and the illustration is sufficient to show that a small number may lay up a surplus in a location where a large number would face a dearth. So if you haven't as many colonies as you would like, while working up to the desired number, take comfort in the special advantages you have because of small numbers.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Larger Baby-Nucleus Methods

So F. Greiner, at work on a somewhat larger baby nucleus, of quarter-sized frames, found out that he could winter them (in the cellar) just as they were—and that he liked it better that way. Four nuclei together—20 frames, Long-Ideal style. For winter just take out the three divisions. For increase move the whole establishment, and put a newly-made-up one on the same stand to catch the flying bees. He seems to have struck an excellent set of manipulations. Page 343.

Formaldehyde in Molasses

This strikes one as a needless piece of wickedness. They think it needs a little, it seems, to make sure of good keeping qualities in hot weather—and then the care and attention required to get in just the minimum amount is too great, and they find it cheaper to douse in a large excess. All these perverse naughtinesses should help some in building up the honey market. Page 347.

That Firm of "Doll-ies"

"Happy is the man that hath his quiver full of them" (arrows), but in this case they seem to be dolls. The most practical and do-things sort of dolls ever heard of. Only to be excelled by this kind of dolls—($$), if, indeed, even by them. Head of the establishment also a Doll—and 5 more dolls not in the picture. Pages 357 and 362.

Ohio Foul Brood Law

Ohio's new foul brood law is hailed by some as a good thing. Hope so. Imaginable that it may anon be looked back to as the beginning of a bad thing. First recognition of the idea that bees may be subjected to special taxation—like sheep-killing dogs and such. I poked up our Assessor on the subject, and he said he had no orders to levy any special tax. The dilatoriness of red-tape, most likely. Get around to it in a year or two. Page 361.

Another Tall Assistant Editor

And is it feet and inches the staff are chattering about? which to look up to, and which to look down to? Well, Hasty used to be just a shaving short of 6 feet. With age and general cast-downness probably more than a shaving short now. Page 368.

Cow-peas in the North

When cow-peas were last up, page 369, I spoke of them as not suited to the North. Fred May, a bee-brother in Illinois (about the latitude of the State capital), says they are extensively raised in his location. By means of them farmers get as much hay on poor land as with timothy on rich land. The soil is generally sandy in that vicinity.

Honey Above the Hive-Entrance

Yes, here's a black eye already for the honey-doubling, up-above entrance. G. S. Blackman, from 30 years of bee-hunting experience, testifies that the good "finds" mostly have the honey above the entrance—and that most of those with the comb below the entrance had but little honey. Page 370.

Properly Speaking of "Hybrid" Bees

We have to call them something, Mr. Holtermann; and that's what makes us so persistent in the wickedness of calling them "hybrid bees." We love our bees, and to mal-suggestively call them "cross bees"—we'll be "bowled to death with turnips" before we'll submit to that. We might, to be sure, call them "grade bees;" but no one likes to start out first in the use of new terms when it is so sure that a great part of our readers will fail to comprehend what we mean. Page 341.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Preventing Bee-Moths, Worms and Roaches

What can you suggest as a preventive for bee-moth, worms and roaches? I have lost several colonies of bees through them.
MISSISSIPPI.

As a preliminary caution in the way of prevention, be careful not to have pieces of comb lying around in comfortable places, as a breeding-ground for the moth. Especially avoid having one piece of comb lying upon another. I don't know how it is as far south as Mississippi, but in northern Illinois a piece of comb may be left lying in the apiary all summer long, and there is little chance that a moth will touch it if it is alone, but let another piece be lying close upon it, and it will soon be alive with worms. Having taken this precaution, the only thing needed in the way of a preventive is to keep strong colonies. Italians are better to keep the moth at bay than blacks, and a weak colony of Italians will put up a good fight where blacks would surrender. Neither need you feel troubled as to roaches doing any particular damage to a strong colony.

Are you sure that you lost those colonies through worms and roaches? Was it not more through queenlessness and weakness, the worms getting in at the finish?

Perhaps a Laying Worker

Of the 17 colonies of bees that I carried through the winter I find 2 not doing well. One is full of drone-cells ready to hatch; the other has plenty of honey and a fair supply of bees, but no queen, eggs or young bees to be found in the hive. Are they queenless?
MISSOURI.

ANSWER.—The one filled with drone-brood is likely to have a drone-laying queen. The best thing is to break up the colony, distributing the bees on their combs to other colonies. The one with no queen or brood may possibly have a virgin queen, such queen being sometimes very hard to find. Give it a frame of brood containing eggs and unsealed brood. Two or 3 days later, if you find queen-cells started, you may decide it is queenless, and break up the colony. In rare cases, however, queen-cells may be started when a virgin is present, and if you are anxious to preserve the colony, it might be well to wait a week, or even 10 days after giving the brood before pronouncing condemnation. It is believed that the presence of unsealed brood helps to hurry up the laying of the young queen, if one is present.

Albino, Punic and Holy Land Bees — Transferring—Putting on Supers—Best Hive-Cover—Requeening

I have not been very successful with my bees. Last spring all of the Italian and hybrid colonies died, but a Carniolan colony came through all right; it swarmed 3 times, and I caught the second and third swarms. The old colony stored 72 sections of honey, the second swarm 48, but the third swarm stored none. They all wintered well, and my grandpa gave me a swarm last year that stored 24 sections.

1. What do you think of the albino and Punic bees? Also the Caucasians?
2. When is the best time to transfer bees?
3. When is it time to put on the supers? Is it all right to put them on when the hive is full of bees, but not full of honey?
4. Are the Holy Land bees cross? Are they good honey-gatherers?
5. Does white clover, in a dry season, produce as much nectar as in a wet season?
6. Does blackberry yield much honey?
7. What is the best kind of hive-cover?
8. When is the best time to requeen, and what is the best method?
9. Is the second edition of "Forty Years Among the Bees" any different from the first edition, or is it re-written? INDIANA.

ANSWERS.—1. Whether it be of the human race or the lower orders of the animal creation, the rule is that an albino is of weaker constitution than others. It is possible that an albino bee might be superior, but, if so, it is in spite of being albino and not because of it. The little experience I had with Punics makes me think them hardy and industrious, not with the sweetest tempers, the worst gluers I ever knew, and capping honey so watery-looking that they are fit for extracted honey only. Caucasians are yet an unknown quantity; the best according to some; worthless according to others.

2. During fruit-bloom has been a favorite time, but of late the tendency is toward waiting till they swarm, and then breaking up the old box-hive 3 weeks after swarming.

3. The old rule is to put on supers when bits of white wax are seen along the upper parts of the comb and frame. That's probably a little late, for the white wax is an indication of crowding. If your first harvest comes from white clover, put on supers just as soon as you see the first blossom opened out. No harm to put them on a little before time, even if the brood-chamber is not yet filled.

4. I don't know much about them, and it might not be easy to find them pure in this country. See what Louis Scholl says about them, page 446.

5. That depends upon how dry and how wet. Better results are obtained when a little too dry than when a little too wet. In a wet season the bees lose some time when they can not be at work on account of showers, and when they do work they must bring in more water with the nectar, so, although they may bring in the same volume in a wet as in a dry day, there will be more honey in a dry-day's gathering.

6. Blackberry is not generally in sufficient number to count much. I don't know for certain, but I think it might be important where there are large fields of it. In any case, whatever it does yield is of importance because it comes early enough to fill in the gap between fruit-tree bloom and clover.

7. Probably a flat one perfectly rain-proof and double, so as to have a dead-air space. I have some with a space of ⅜ inch between the upper and lower parts, and covered with zinc. They are excellent, but expensive, costing something like 30 cents each.

8. A good time to requeen is any time when you have the queens when honey is yielding well. It's largely a matter of convenience. Other things being equal, there is perhaps no better time than well along in the honey-harvest. It is easier to have good queens then than earlier. But if you are getting a queen to breed from, it may be better to do so right away if you want the benefit of her this season. You will perhaps do best to use the plan for introduction that will accompany the queen you buy. Don't make your colony queenless in advance of getting your queen.

9. There is no difference except that the latest edition has the Appendix. If you have the old edition all you need to do is to send 10 cents to the American Bee Journal office for the Appendix.

Italianizing Black Colonies

1. I have 3 colonies of black bees. Can I keep them from swarming and from mixing with some choice Italians I have by using entrance-guards on the blacks?

2. Do you think I could form colonies with the Swarthmore method, by taking bees from the black colonies and a frame of young brood from a select-tested Italian queen? and will they rear a queen from that brood? I want to get them all Italianized. NEW YORK.

ANSWERS.—1. No, entrance-guards will not prevent swarming. If there is any difference at all, a colony will be just a little more sure to swarm with an entrance-guard than without it. The only thing accomplished by an entrance-guard is to prevent the passage of queens and drones. An entrance-guard, in the way of a trap at the entrance, will allow you to trap the drones of your black colonies, and so prevent these drones from meeting your Italian virgins. You may accomplish the same thing by keeping all drone-comb out of the black colonies. But this will avail little if there are other black bees within a mile or so.

Possibly I don't exactly understand your question, and if so I'll be glad to have you ask again, for I don't see what difference it will make to have your blacks swarm, nor even if some of the black bees should enter the hives of your Italians. It's the black drones you are to fear. If you allow natural swarming, there's one way that you can work it nicely. Draw brood from the strongest of your blacks and give to the Italians, so the Italians shall be stronger than the others and swarm first. Suppose we call the Italian No. 1, the strongest black No. 2, the next strongest No. 3, and the weakest No. 4. When No. 1 swarms, set the swarm on the stand of No. 1, set No. 1 on the stand of No. 2, and set No. 2 in a new place. In a little more than a week No. 1 will be pretty sure to swarm again. Set the swarm in place of No. 1, set No. 1 in place of No. 3, and set No. 3 in a new place. A day or so later No. 1 will swarm again. Set the swarm in place of No. 1, set No. 1 in place of No. 4, and set No. 4 in a new place. When No. 1 swarms next, set the swarm in place of No. 1, and set No. 1 in a new place. You will have black and yellow bees mixed up in all your hives but No. 1, but the queens will be just the same as if no black bees had mixed in.

2. Yes, your black bees will rear just as yellow queens as will your yellow bees. But don't think of having queen-cells started by only a few bees.

Bitter Honey—Comb-Honey Management

1. My honey is bitter this spring. What makes it so? What must I do to remedy it?

2. Give the best method of working for comb honey where the principal, and you might say all the honey-flow, comes between May 1 and 15. ARKANSAS.

ANSWERS.—1. I don't know of anything likely to make the honey bitter except the source from which it is obtained, and I don't know of any remedy for that. You can not control the bees so that they will not visit flowers that yield bitter honey, and after they have gathered it there is no way that you can take the bitterness out of the honey. The only thing you can do is to see that it does not get mixed in with good honey. It will be all right to let the bees have such honey for their own use, probably, and the honey is all right for mechanical purposes.

2. The only special thing in such a case is to do your best to have all colonies strong early enough for the harvest. You will find that early in the season some colonies will be much stronger than others, and that the weaker colonies will be very slow about building up. Suppose you have some colonies with 8 frames of brood, some 7, some 6, some 5, some 4, and others weaker still. You can take brood from any colony that has more than 5 frames, enough to reduce it to 5 frames of brood. Now, don't bestow that brood indiscriminately to the weaker colonies, but let the weakest wait till the last. Give a frame to each colony that has only 4, and when these are all supplied, then help those that have only 3, and so on. If all can not be brought up in time, let it be the weakest ones that are neglected.

Reports and Experiences

Getting the Honey Now

In my apiary in Southern California the bees are gathering what seems to be unlimited amounts of honey. Two of 6 colonies have 4 supers, 3 have 2 supers, and the remaining 1 has 1 super. Moreover, they are the standard 10-frame supers. Two other colonies I increased to 8, and am waiting the results with much interest. They are rearing their own queens, having been made by a modification of the nucleus method. E. E. RICHTER.

Belmont, Calif., May 22.

Too Cool for Bee-Work

Clover is in bloom and bees are busy, but it is rather too cool so that but little opening of hives can be done. There is some swarming.

JOHN M. DAVIS.

Springhill, Tenn., May 8.

Prospects for a Good Season

I have 5 colonies of bees. I would not know how to manage them without the "Old Reliable." I wintered them in the cellar, and put them out April 17. They had brood hatching when put out. The prospects are for a good season. Mr. C. Davenport's method of swarm control (on page 185), also his queen-finder (on page 252), are wonderful discoveries. He should describe them before some one else does, and take the credit from him. If I were to make any discoveries of value I would not be able to contain them. I would have to make all haste to inform "ye brethren." G. A. MCDONALD.

Cambria, Wis., May 7.

Working in the Supers

Bees are doing well, and are working nicely in the supers. It is quite dry, and has been cool and cloudy for 2 or 3 days.

Milo, Mo., May 29. CHAS. M. DARROW.

Season Late in California

The season in California is very late. Southern California has had abundant rain, but so far it has been too cool for honey. The sages here do not promise well, the flower-buds not being well developed. Swarming is very light. However, the bees have been at it for 6 weeks when it was warm enough.

G. F. MERRIAM.

San Marcos, Calif., April 17.

Late and Backward Season

We are having cloudy and cool weather here now. My barometer registered at 29.20, and it has always rained the past winter when at this point. Bees have used much of their stores, and some I have to feed until good, clear weather comes. The season is very late and backward. Bees are swarming with no honey. The sages look fine.

M. H. MENDLESON.

Piru, Calif., April 14.

Honey-Flow Has Begun—Iowa Pure Food Law

The honey-flow has just begun here. I have been feeding about 100 colonies since April 1. I have gotten most of them in tolerably strong condition, and began supering day before yesterday. I packed 120 colonies last fall and have lost about a dozen of them, mostly due to loss of queens. The weather has been quite cool yesterday and to-day. Iowa now has a pure food law which will be in force after July 1. EDWIN BEVINS.

Leon, Iowa, May 28.

A Good Queen—Moving Bees

In 1904 I got a queen as a premium just in time to prevent a colony from becoming hopelessly queenless. She brought that colony up into good shape that season, and has been my pet ever since. I divided her force several times in 1905, in order to rear queens from her, and each one of those divisions did at least as well as a good prime swarm, besides giving me a goodly number of queens for Italianizing. So far this season I have one swarm and 2 "divisions" from her direct, besides half a dozen fine specimens of her progeny—I mean young queens which I in tend to give to some queenless colonies or nuclei.

I have been in the bee-business the last 10 years. After lots of small setbacks, for various reasons, I had 63 colonies in first-class shape the spring of 1904. I bought a lot of 24 and an estate of 113 colonies that spring, and prepared them for transportation on an island some 30 or 40 miles from their location. Then came the high water of the spring, flooding the locations of part of the bees, and cut off the road to the others. I could not get them together (as I wanted to put them on board ship) for some time, and when I finally got to it I could not get competent help, so that I had to do it single-handed.

After getting them moved I had to hire help to clean the boxes from the dead bees in order to save the hives from becoming worthless, as the bees of the estate had foul brood, which I could not very well detect before, for the reason that the frames could not be removed without breaking and smashing the combs, what I wanted to prevent before moving. After a sorrowful season of untold labor, and trouble and expense, I had left 32 colonies.

With a purchase of 19 colonies since, and 3 or 4 which I had kept at home, the increase of 1905, and so far in 1906, I count to-day 152 colonies in fine trim, located in 2 different places about 14 miles apart, both yards promising good returns, as the season so far has been the best I ever experienced.

SEBASTIAN ISELIN.

San Joaquin Co., Calif., May 22.

Lost from Lack of Stores

My bees have wintered well, and are in fine shape to-day. About 75 percent of the bees in this county are dead. The honey-flow stopped short in June of last year, and the bee-keepers failed to feed, and so the bees suffered. J. E. YOUNG.

Webster City, Iowa, May 29.

Wiring to Prevent Sagging of Comb Foundation

There seem to be many complaints of foundation sagging when fastened in brood-frames. While the following will not prevent sagging, it prevents warping and buckling after the wires are embedded:

The wires are not drawn tight. I use a 95-cell battery and a home-made arrangement to conduct the electricity to the wires. My frames are solid on the under side, and fastened there with wax and rosin. When ready to fasten the wires the frame is placed on a board a little smaller than the inside of the frame. A match is placed in the center of the upper wire, and the wire is forced toward the top-bar as the current is applied. Foundation fastened in this manner may sag, but it will not warp. It is safer to use foundation that *will not sag*. E. H. DEWEY.

Berkshire Co., Mass.

That Method of Swarm Control

I beg space to give a more complete description of the *modus operandi* of my method of swarm control, as described on page 383, in hopes it will put a quietus on letters of inquiry, as I am a very busy man, and yet I do not like to let some go unanswered.

First, take away the super and set it in front, or nearly in front, of the stand. Leave the cover on the super and use no smoke. Separate above the queen-excluder, and now smoke the brood-chamber some to quiet them. Take a comb of as young brood as possible from the old brood-chamber, and place it in the center of the box of combs or foundation designed to be the new brood-chamber, fill in the space in the old brood-chamber with combs or foundation frame, then place the new brood-chamber above the old one and close the hive. Smoke vigorously at the old entrance, and but little time is required for most of the bees and queens to get upstairs.

Now place the new brood-chamber on the bottom-board, and carefully place the honey-board above it; then shake the remaining few bees that are in the old brood-chamber in front to make sure the queen is out, and put it on above the honey-board. Tear down any queen-cells that may be formed, and in 8 or 10 days tear the cells out again. Of course, the super goes on again, making it a 3-story hive in place of a 2-story.

This generally settles swarming for that colony for the season. I never allow any drone-comb where the queen can get at it, but, if it is allowed, one can remove the larvæ with my sulphur treatment, being very careful not to use sulphur above the worker-brood, as in cleaning it out some will sprinkle down on the worker-brood, and it also will be removed and combs rendered unfit for the queen's use for some time.

To those asking a description of my queen-trap, I would say that I am not altogether satisfied with the way it has acted since mentioning it before. But I think I can perfect it in time, and will freely give a description as soon as I do. At first it worked perfectly, and then came a failure or two which I think I can overcome; but it can only be used with satisfaction in connection with my method of swarm control. H. S. PHILBROOK.

Oxnard, Calif., May 22.

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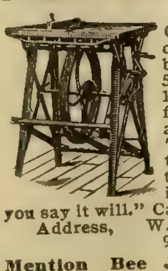

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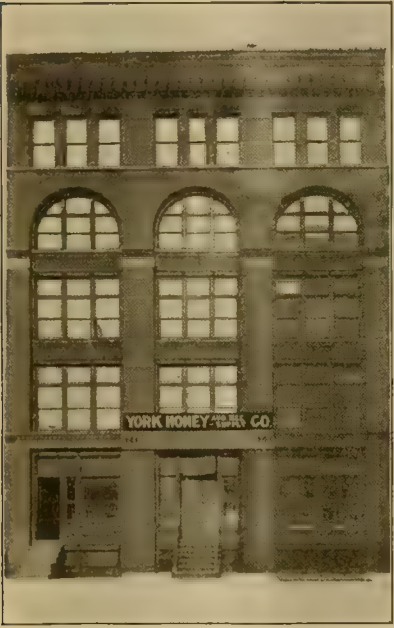

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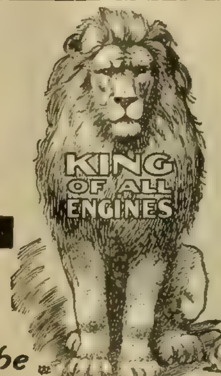

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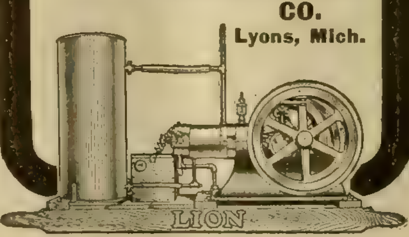

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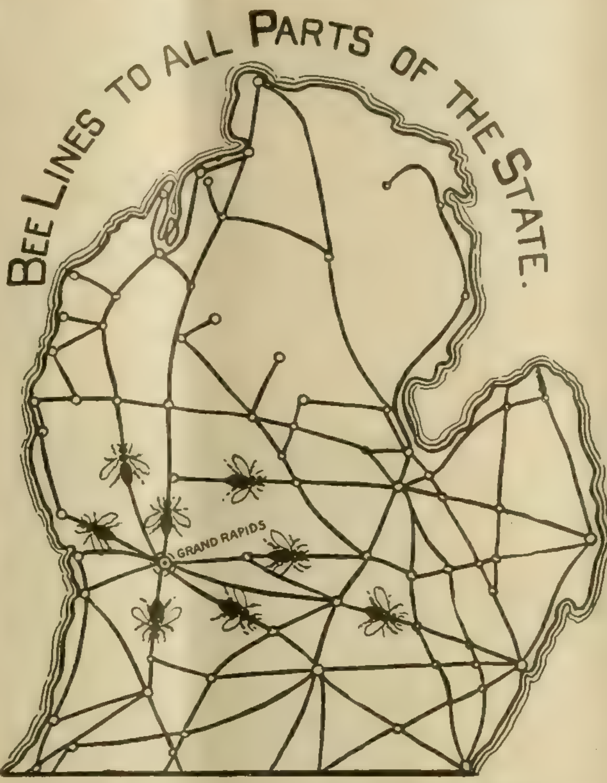

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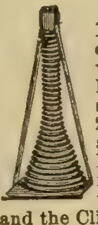

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Honey and Beeswax

CHICAGO, May 18.—We are having very little call for honey, either comb or extracted. Fancy comb is bringing 15c; other grades from 10@14c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c. R. A. BURNETT & Co.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, May 12—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, May 31.—The season is so far advanced that there is not enough call for comb honey to fix a price. Some few lots are being sold at the best offers. We quote: Extracted, fancy white, 7c; amber, 5½@6c. Beeswax, 29c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
HILDRETH & SEGELKEN.

CINCINNATI, March 8.—The conditions of the market, at the present time, are not encouraging. Honey is offered from all sides, at prices utterly regardless of the value of the article. At the same time, all indications point to an unusually good honey crop, which adds in making it a drag on the market. Amber extracted honey in barrels, 5@6½c; fancy white, in cans, 6½@8½c. Choice yellow beeswax, 30c, delivered here. THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, May 31.—The honey market here is bare, no new honey in market yet. The market is about $3.25 per case on fancy white. Extracted, 5½@6c. On account of the warm weather and heavy receipts of fruits, the inquiry for honey is dropping off, but we believe with the advent of new honey there will be a good demand for same. C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fency white, 14@16c. Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., JUNE 14, 1906 No. 24

Apiary and Home of C. H. Dibbern, of Rock Island Co. Ill
(See page 502)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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Contents of this Number

Illustrations—

Apiary and Home of C H. Dibbern....... 1st Page
Apiary of Otto Schulz, in Germany............ 502

Editorial Notes and Comments—

Coverdale's Oilcloth-Super Feeder........ ... 501
Cuban and Porto Rican Honey and the Tariff 501
Denatured Alcohol and Poorer Grades of Honey.... 501

Miscellaneous News Items—

Death of J. C. Acklin...... 502
Home and Apiary of C. H. Dibbern............ 502
Otto Schulz in Germany............ 502

Contributed Special Articles—

Bees Destroying Queen-Cells with Live Queens 504
Dadant Methods of Honey-Production (No. 13) 504
Pollen—How to Use to Best Advantage........ 505
Small vs. Large Hives and Supers............... 503

Canadian Beedom—

Bumble-Bee Apiarist.............................. 506
National Control of Food Supplies.............. 506
Specialize in Bee-Keeping.......................... 506

Our Sister Bee-Keepers—

Early Swarming in Nebraska.......... 507
Hives—8-Frame vs. 10-Frame for the Sisters... 507
Pollen—Its Gathering and Value............... 507

Southern Beedom—

Sister Bee-Keeper in the South................. 507

Mr. Hasty's Afterthoughts—

Advertisements Valuable as History........... 508
Brown-Tail and Gypsy Moths, and Potato-Bug 508
Davenport (C.) Safe in Minnesota 508
Queens and Drones Can't Digest Pollen ?....... 508
Swarm and Drone Prevention.............. 508
That Mouse-Eating-Honey Controversy 508
Weak-Colony-Over-Strong Experiences... 508
Zinc and Tin Queen-Excluders.................. 508

Dr. Miller's Question-Box—

Bees Hanging Out..................... 508
Destroying Ants in Hives................. 509
Hive Portico...... 508
Likely Not Foul Brood............ 509
Little Foul Brood.................... 509
Moving a Swarm............ 508
No Queen-Excluder Under Sections.......... .. 509
Queen-Excluder Under Extracting Supers..... 509
When to Take Off Supers.......................... 508

Reports and Experiences

Black Bees vs. Italians 509
Home-Made Swarm Catcher....................... 508
Large Hives.................. 509
Prospects All Right... 510
Rain Starts Bees on Clover. 510
Watering Place for Bees.... 509

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

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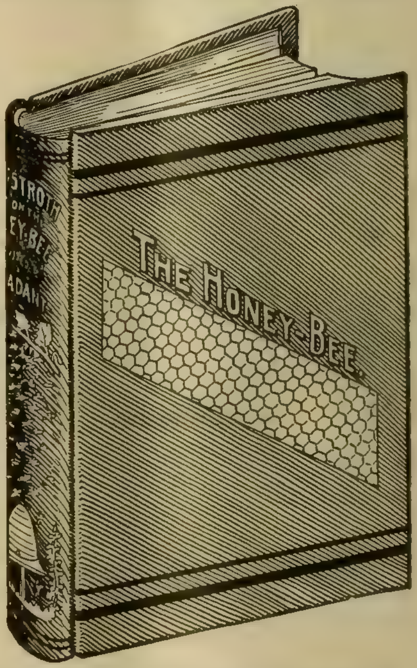

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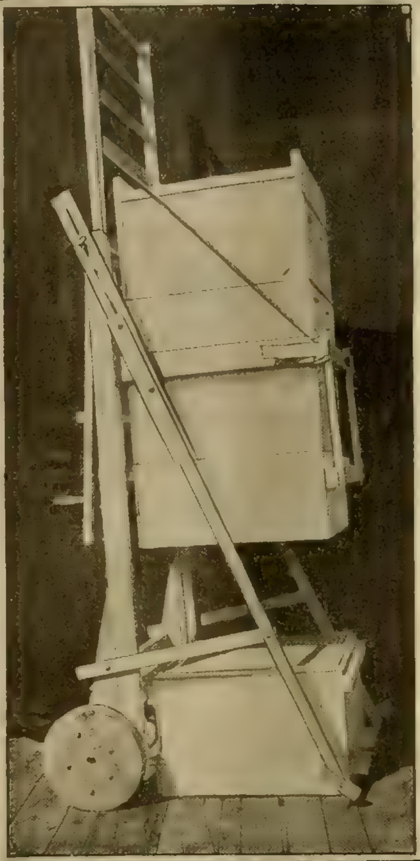

Swarming Done Away With

The illustration shows one of the A. K. Ferris hives under manipulation for Comb Honey Production.

Every bee-keeper will want to read about Mr. Ferris' hives, which are so large that they have to be handled with a small derrick.

Another important contributor on this great swarming problem is Mr. G. M. Doolittle, author of "Queen-Rearing." Mr. Doolittle's plan is no doubt a perfect solution for localities where the same conditions as those in his own apiary exist.

Photographs illustrating every point will be used in connection with these articles, and every effort will be made to have each thought so clear that any bee-keeper can immediately apply the teachings to his own apiary. Never has the outlook for so many interesting contributions been brighter than it is at the present time. Every bee-keeper who does not take **Gleanings** will surely not want to miss the remaining issues of 1906.

If you have not seen the first installment of this series, send in your name for a three-number trial subscription which will be given free of charge. The April and May numbers will be mailed to you, and by June you will undoubtedly be so interested that you will want to take out a six months' subscription at least, the special price of which will be 25 cents.

If you choose to remit at once, make your request for the above issues in addition to the regular numbers for six months beginning June 15th, and we will send them free of charge.

Gleanings in Bee-Culture
MEDINA, OHIO

SECTIONS

Sections are in great demand at this season of the year. We are running full capacity, but can hardly supply the call for No. 1 Sections of all sizes.

Place orders at once, or you are apt to be disappointed. We have a very large supply of No. 2 grade of Sections. These Sections are as good as some offer for No. 1. Not being snow-white—but having a tinge of cream grades them No. 2. Give this grade a trial this season. It will cost you 25c a thousand less.

ALEXANDER FEEDER

We are prepared to furnish the Alexander Feeder. We make them 19 inches long so they may be used with either an 8 or 10 frame hive. With a 10 frame hive they will project 3 inches beyond the hive for feeding, and the block may be laid crosswise of the feeder or be cut off as preferred. With the 8-frame hive the feeder projects 5 inches and the block lies lengthwise. We soak the feeders in oil to prevent the feed from soaking in. Price, finished, including block, 25c each; 10 for $2; 50 for $9.

GERMAN BEE-BRUSH

Some months ago Mr. R. F. Holtermann called our attention to a bee-brush which he received from Germany, made of genuine bristle or horsehair. He had used one a whole season, washing it out often, and it appeared to be as good at the end of the season as at the beginning. He considered it so far ahead of anything he had ever seen or used that he wanted no other. We concluded if it was so good for him it must be equally good for others. We are now provided with a stock which we offer at 25 cents each; by mail, 30 cents. The bristles are black, and about 2 inches long, extending 8 inches on the handle. Made of white hair it would cost 5 cents more.

THE A. I. ROOT CO.
Medina, Ohio.

—— BRANCHES ——

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AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor CHICAGO, ILL., JUNE 14, 1906 Vol. XLVI—No. 24

Editorial Notes and Comments

Denatured Alcohol and Poorer Grades of Honey

There is general rejoicing that Congress has freed denatured alcohol from the burden that has been upon it, and that now alcohol can be used to compete with gasoline and kerosene. Bee-keepers share in the general interest, and have besides a special interest from the fact that it may make an outlet for the poorer grades of honey. Whether that shall amount to anything or not depends upon the worth of a gallon of denatured alcohol, and how much honey it takes to make a gallon of alcohol. Probably we shall know definitely about that before the new law goes into effect—Jan. 1, next.

It sounds just a bit strange to find bee-papers rejoicing at the cheapening of alcohol, when none of them would advocate the use of alcoholic drinks; but denatured alcohol is not an alcoholic drink in the proper sense of the word. It can no more be used as a drink than can gasoline, but it can be used as a fuel, and in other ways. The only wonder is that the powerful lobbies that are generally credited with controlling Congress, should have allowed the Bill to pass. But whenever *the people* rise in their power, then even "powerful lobbies" in Washington, or anywhere else, have to take a back seat. Some of these days "the people" will arise and dethrone King Alcohol as a beverage; and then there will be rejoicing, not only on earth, but in Heaven as well. May that day speedily come!

Cuban and Porto Rican Honey and the Tariff

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—I have been reading bee-literature for the past 4 years, and in that time I have heard nothing said about a tariff on foreign honey high enough to protect the American article. With the present tariff of only $1\frac{1}{3}$ cents per pound on Cuban honey, is it any wonder that honey does not bring a higher price?

It will be seen from enclosed clipping from the New York Tribune of April 9, that the American honey-producer has still more to fear in the way of Cuban competition. If the California fruit-growers could ask for and get a protective duty on oranges, which they did (I think it was in 1896), I don't see why the honey-producers of the entire United States and her adopted children (one of which is Porto Rico) should not wake up and try to do the same.

I hope the American Bee Journal, and also the National Bee-Keepers' Association, will give this matter their attention.

Porto Rico, April 24. W. J. YOUNG.

The clipping referred to states that there has been a conference between the officials of the United States and of Cuba, "with the purpose of framing a new reciprocity treaty to replace the existing convention," and says:

> The reason for the preparation of the new treaty is that the officials here have become convinced that America is getting by far the worst of the bargain under the present arrangement. While nearly all of the exports from Cuba come to our ports, only a little more than one-third of the imports into Cuba are furnished by American farmers and merchants.
>
> Therefore, in framing the new treaty some changes of the utmost importance have been made in the tariff schedules, and in all cases these are calculated to increase the advantages of American shippers. Existing rates of duty have been lowered on goods entering Cuba, and other amendments have been made that officials say will redound to American advantage.

On the face of it there is nothing said in the foregoing that threatens any change inimical to the interests of honey-producers in the United States. The statement is that important changes have been made in the proposed new treaty, but that *in all cases* these are to the advantage of American shippers. Certainly there is nothing in that to alarm American bee-keepers.

Yet when our solons at Washington begin tinkering with a tariff there is no telling what will be its shape when they are through with it. The whole question, however, is rather one of politics than of bee-keeping, and it is a little doubtful that bee-keepers could agree unanimously as to what would suit them if the whole question were left to their decision. Certainly, however, they have the right to protest against any injustice, and it will do no harm to keep informed.

"The present treaty does not expire by its own term for 3 years," and it may be that "the new treaty will be withheld from the Senate until next session."

Coverdale's Oilcloth-Super Feeder

Frank Coverdale, of Iowa, tells about it in the Bee-Keepers' Review. With an idle super on hand, less than 5 cents for oilcloth completes the feeder, which may be used over or under a hive, or it may be used as an open-air feeder. Mr. Coverdale says:

> It is extremely simple; a dovetailed comb-honey super is lined with oilcloth which costs here $12\frac{1}{2}$ cents a yard; and it makes a feeder that will hold about 3 gallons, and costs only 4 cents each, or 25 feeders for only $1.00. I believe the cloths will last for years. I have fed 3 times with some of mine, and can see no sign of injury.
>
> These feeders set on top of the hive, or the hive may be raised from the bottom-board, and the feeder set underneath, after the required amount of syrup has been put into it. Long grass or hay must be thrown in; this is to prevent the bees from getting drowned.
>
> Every comb-honey producer will usually have plenty of empty supers, and it is handy to fix them for this business. These cloths may be used in any super that will support them; even the different apartments of the T-supers may be fitted to take them. A shingle may be let down to the tins in one or all of the apartments, care being taken to see that the bees always have access to the feed; or if placed underneath be sure there is an opening in front to allow the bees to fly out at all times.
>
> Those who use dovetailed supers or section-holders can key up the supers. When putting in the oilcloth fold the corners so as not to allow any chance for leakage. Push in a little sharp tack at each corner, close to the top edge of the cloth. Do this to keep the cloth sound from holes. Use just enough of these brads to hold it in place.
>
> We use the cheap grade of oilcloth, and, so far, have met no obstacle. See that you get *sound* cloth. Hold it up to the light, and if there are any defects they will show.

Miscellaneous News ✣ Items

J. C. Acklin, of St. Paul, prominent among Minnesota bee-keepers, died very suddenly at a hospital lately. The brief notice we received from a friend did not contain any of the particulars. But we expect to secure and publish them in a later issue. Mr. Acklin was a noble man and sincere friend. He will be greatly missed in Minnesota beedom.

LATER.—Since the foregoing was written, we have received the following from the A. I. Root Co.:

> Mr. J. C. Acklin, St. Paul Manager of the A. I. Root Co., while delivering some bees in Highwood, a suburb of St. Paul, was stricken with apoplexy from which he died the following morning, May 26. Mrs. H. G. Acklin, who in former years was in active management of the agency, resumes charge again, and the business will be continued as usual. An able assistant who has for years done a large share of the work is still in service, and orders will be promptly cared for.

Dr. C. C. Miller and G. M. Doolittle are the two leading apiarian writers of the world. We believe that no two other men contribute as much to the present-day literature of bee-keeping as they do. And both are intensely practical, and so are also successful with bees.

Mr. Doolittle wrote us June 4 that he had been in poor health since last February, and during the most of May he was able to do but very little, being confined to the house quite a share of the time. But we are glad to say that when he wrote us he was feeling better, though still quite weak.

Dr. Miller was 75 years old (no, 75 years "young") last Sunday, June 10, and, so far as we know, in excellent health for one of his many busy years.

We are sure all the readers of the old American Bee Journal will unite with us in extending heartiest congratulations to both Dr. Miller and Mr. Doolittle, and trust that they may live yet many years to continue to bless not only bee-keepers but the whole world.

Our Special and Premium Offers are always made to those subscribers who are entitled to receive the American Bee Journal at $1.00 a year, and all new subscriptions that are received on our premium and special offers are at $1.00 each. Hence, such offers do not apply in countries where there is an extra postage charge for sending the American Bee Journal, such as England, France, Germany, etc. Any one living in those "foreign" countries where such extra postage is charged, would need to send the price of the Bee Journal ($1.00) and the extra postage. In England that would be $1.50. For instance, in this country we offer Dr. Miller's book, "Forty Years Among the Bees," free as a premium for sending us two new yearly subscriptions—that would be $2.00; but if the two new subscriptions came from England or Germany, it would be $3.00; or 50 cents more to cover the extra postage on the American Bee Journal sent to "foreign" countries, or those not taking domestic postage rates.

Home and Apiary of C. H. Dibbern.—The pictures presented on the first page this week are the apiary and home—that the bees helped to pay for—of Charles H. Dibbern, of Milan, Ills. The main figure in the apiary view is Mr. Dibbern himself, holding in his hand his latest invention—the queen-trap, which he has used for a dozen years for hiving and controlling swarming. The group of children in the foreground consist of two grand children and a couple of neighbor's children. The apiary now consists of about 100 colonies, as Mr. D. has concluded that the locality will not support more profitably; besides, he has now arrived at an age where he does not care to do the hard work required in a larger apiary. The picture was taken early this spring, and as supers had not yet been put on, the hives have a somewhat squatty appearance.

Mr. Dibbern commenced bee-keeping just 40 years ago this spring, and has had bees continuously ever since. He has never had any serious disease among his bees, and has never seen a case of foul brood. Like most bee-keepers with the bee-keeping instincts born in them, he has been a constant experimenter, and as a result has produced several inventions of merit.

The T-super was original with him, and he described it in the American Bee Journal early in the '80's.

In 1889 he discovered the principles of the horizontal bee-escape, and published his discovery in Gleanings. This proved a little premature, as he had not perfected the invention, and a host of others took up the idea and the escape was soon perfected by others.

A hive also was "invented" which he now has had in use for some 20 years, and he sees no reason for changing it.

His latest is the queen-trap, which, of course, is a modification of the Alley trap, but, in his opinion, is a great improvement in several particulars. He has never patented any of his inventions, and always gave his ideas freely to the bee-keepers of the world.

The home (see second picture) is a modest structure, built rather for comfort than any particular style or display. It is situated on rising ground on the north side of Rock River, near Black Hawk's Watch Tower, now a very popular resort. The group consists of several friends and his entire family, consisting of wife, son, daughter, daughter-in-law, son-in-law, "the baby," and two other grandchildren.

Otto Schulz in Germany.—We have received a souvenir postal card from Prof. A. J. Cook, who has spent the past year in Germany, as our readers know. The picture on the card is shown here, and it was written from Buckow, Germany, May 10, 1906, and reads as follows:

Apiary of Otto Schultz, in Germany

> A great day here. Otto Schulz is a genius. He makes foundation cells full-depth and very fine. He forms wax sheets on a large wheel, then thins at pleasure between rolls.
>
> It is very beautiful here. I have had a splendid time, but my wife has been sick in the hospital for several weeks. She is now safe, and at home. My wife and daughter will remain here another year. I leave next Tuesday, and get home Sept. 1. A. J. COOK.

Errata.—On page 461 two regrettable errors occur. In the first column, in the second line of the fourth paragraph, several words are omitted. The whole sentence should read, "May 20 a frame of brood was taken from each colony having 8 brood, and given to one having only 6."

The omission of a comma in the next paragraph accounts for the absurd statement that "Two supers of 44 sections each were placed over the lower super." Putting the comma where it belongs changes the sense entirely, making it read, "Two supers of 44 sectious each were placed over, the lower super containing 12 bait-sections."

W. H. Putnam, editor of the Rural Bee-Keeper, made this office a call recently when in Chicago. Mr. P. is perhaps the "heavy-weight" among all the bee-editors when it comes to avoirdupois. And he is as jovial as he is large. It was our first opportunity to have a somewhat extended conversation with him, although we had a "How do you do?" acquaintance with him before.

A Good Thermometer, mounted on a large-size wood back, is being used as an advertising novelty by Walter S. Pouder, a bee-supply dealer at Indianapolis, Ind. One sent to this office is doing good service these hot days. It's somewhat satisfying to know just what the temperature is even if the knowledge doesn't help cool one off any.

✢ Contributed ✢ Special Articles

Small vs. Large Hives and Supers

BY C. W. DAYTON.

I NOTICED the statements relating to Mr. Andrew's bees, honey and hives on page 180. Simply for mutual examination I wish to compare conditions.

Mr. Andrews had 250 colonies, and I had 160, spring count. His yield was 25 tons, and mine 12 tons. Mr. Andrews moved to oranges. I did not have oranges. Sage alone. But if he has oranges and sage both in one location it would not be any better than sage alone, except that oranges might give 2 or 3 extractings before sage came in. I did not extract until May 15. Oranges, as I understand, yield water-white, or very light amber at Riverside (or Corona). Here, oranges give dark amber, and it will not pay to mix with sage. Mr. Andrews may have extracted several times before I extracted at all. It may be that sage would last longer here at Chatsworth on account of the damper location. It was damp and cloudy here from April 10 to May 20. The clouds came over the mountains from the coast. Riverside and Corona are so far inland that there is far more clear weather when the bees could gather honey earlier in the season.

Mr. Andrews' hive I take to be the regular, full-sized Langstroth, 10 frames in the lower story and the same size story above. My lower stories are for 10 frames, 13 inches long, and an extracting super on top 13 inches long, and 5 inches deep, or one-third the size of Mr. Andrews' extracting super. My lower story is only ¾ the size of Mr. Andrews.'

I allowed the honey to become entirely sealed over, including both outside combs, and then allowed them to stay on the hives 3 to 4 days until they were built solid with brace-combs between the stories. From my 160 colonies there were 350 swarms, but only 100 were hived. Mr. Andrews' yield was 50 pounds to the colony in excess of my yield. At 5 cents per pound it is $2.50, not counting receptacles. If the cost of production is 4 cents per pound it comes to $2.00, leaving a net profit of 50 cents in favor of Mr. Andrews' hive, yield, or something. Or, is it possible that my small hive and *awfully small* super will do as well as larger?

At the first of the season I had 12 or 15 colonies with 2 of these little supers on each. When I had extracted 3 or 4 times I took the extra super off, only leaving one, as it seemed that I got just as much honey from the one.

Of course, 50 pounds of honey is considerable honey, but 50 cents profit is not much difference, yet it is one-fourth. But I wonder now if 4 of my hives, which are about one-half as large as Mr. Andrews', cannot be manipulated and handled as easily as 3 of the regular and larger size. One thing, I never use a brush on these small combs, and put 9 combs, (or a whole super) in the extractor at once. I have not brushed bees off extracting combs in 10 years. Of course, small combs are easier to handle all around, and more rapid. It takes me just two minutes to go 100 feet from the extracting house, take the cover off the hive, smoke the bees, take the combs out and put the empty combs in their places, close the hive, and get back into the extracting house again. I have the idea that it would take 5 or 6 minutes with the large hive. Of course, I must extract oftener where the small super is used, but I extract from but few lower stories, and that where there is no queen below or the super remains full a long time. As I understand, the large stories run from 32 to 38 pounds at an extracting, when they are sealed, and my small ones go from 22 to 28 pounds. The large combs are thicker in the middle at the top in most of the colonies than at the ends and along the lower half.

It has long been my belief that there are but a small proportion of the bees which gather honey compared to the whole colony, a large share standing around on the honey doing nothing, or else there is more inside work in the hives than we know of. If 5 pounds of bees went out after honey 5 times a day, they ought to bring back 25 pounds. And as sage honey is so easy to get they could easily make 25 trips a day if they were so disposed, as the days are 17 hours in length and sage is unlike many other honey-plants, in that the honey tubes are open for the visits of the bees all day long.

One thing against the large hives and supers is the trouble they make to carry them over the dry years when we need so few bees in the hives. Where the bees can be moved into the orange-groves the trouble does not occur, but very few apiaries are, or could be, so situated here. But it is much more labor to move large hives than small ones. Too much for the 50 cents I have figured above. Every one who has seen my apiary in years past has detested such a stingy super and hive. But my management is different from that of the large hives. In the spring I manipulate the brood-combs so that the small combs become solidly filled. If there is any pollen or solid combs of honey it is caused to be removed and carried into the super where such off grades can be extracted at the first round and kept separate from the sage. With larger super the dark would go in with considerable sage. Small supers enable more perfect separation of grades.

When the bees get the combs of honey all sealed and properly ripened they retire from the supers, only enough bees remaining to keep guard over the honey, and then the main force of bees begins to cluster out at the entrance. I tell from outside indications when they are ready to extract. When the combs are completely finished in capping and ripening the bees are very easily shaken off, so that no brush is necessary. I set the combs in tin-bottomed boxes on the wheel-barrow which hold 24 combs each. I have 5 of these boxes and 150 to 200 extra empty combs so that I do not open hives the second time to put the combs in.

The quick handling of small combs, without brushing, gives robber-bees very little time. But robbers seldom are numerous until near the close of the season. At that time I take out honey in the middle of the day to keep the extractor going until dark, if necessary. Then through the night, if robbers trouble my work, the boxes of empty combs remain stacked up with robber-cloths (cloths wet with carbolic-acid water) over each. This renders them unattractive to robbers, while on the wheel-barrow, and also to the inmates of the hives they are put into. The most of the trouble is caused by the bees of the colony rushing outdoors at the smell of the combs within, and perhaps turning to dig and pull at the cracks of their own hive. And, especially, forgetting in the excitement, to guard their own entrance. Carbolized combs maintain order in the colony in which they are placed. In a few hours the acid is all evaporated and the combs are cleaned up more gradually, and with little strife.

It is seldom that a box of combs is brought in to extract containing a dozen bees, but, occasionally a few are. The boxes of combs are slid off the wheel-barrow onto shelves. Above the shelves is a 20-inch strip of wire-cloth extending entirely around the extracting house. The bees climb out of the combs and run up on the screen and soon find the escapes where they get out of the building. But most of the bees brought in are young, as they cling to the combs and are more difficult to shake off than old bees. The young bees go up on the screen in a cluster and stay through the night. A corner toward the sunrise is chosen. In one or two days the young bees find their way out the escape. Near the escape on the outside of the building I keep a nucleus hive. It is usually started with a cluster of bees the size of your fist, and a little chunk of brood such as most bee-men throw out in the grass. They start to rear a queen of their own, but in swarming-time it is easy to put in a ripe queen cell from one of the best colonies. They build combs from a strip of wax as a starter, except the one brood-comb I put in empty to give their queen a chance to lay. When one nucleus becomes strong enough to "go it" without further help it is moved away and another started in the same way. All the stray bees that come out go straight into the nucleus the same way as others have traveled, and a bee that has stayed out of its hive a day or two is always accepted, or, in fact, invited in. The older bees go home at once. Some of these nuclei have given 50 pounds of honey, and every one gives something, and will fill a regular hive in time for the harvest the following year.

The "breeding up" of the colonies into working strength is very much like the growth of plants. Plants grow faster and faster as the weather warms up until they reach the climax; then there is a slackening. My hives are abundant, in size, early or late, or, as, we may say, both ways from the climax. No old queen, after hiving with a swarm or any of the newly-reared queens, reach so large an amount of brood as the queen that begins in the spring and builds with the expectation of casting a swarm. They prepare for the population of 2 full hives then. The reason the hives are so over-populated at this time is because the old bees, that should be off to the fields gathering honey, are loitering around the hive waiting to depart for the woods with the old and much respected queen. There are not often too many bees, but the bees are not in the right place. In order to set the bees at work we must change their dispositions, and that necessitates the removal of their queen.

Now, if the colony swarms some day, and takes the old queen along, the old bees off in the fields do not, when they return and find the old queen gone, get the pouts and stand around doing nothing. They keep on at their work more industriously than ever, seeing that they have the future prosperity of the colony depending upon them to an increased degree. When a swarm issues I take the old queen away at once. Then I confine the bees long enough that they forget the purpose for which they came out of their hive. Then they are permitted to return to the old hive gradually, as if returning from the fields. If they are permitted to come out and cluster and then are returned again and again the disposition of departing becomes more and more fixed upon them, so that when the honey they take along becomes digested and converted into wax for comb-building in their new home, they have become so disinclined toward, and forgetful of, their old domicile as to regard a new home as the only possible alternative. Chatsworth, Cal.

⁂

Bees Destroying Queen-Cells With Live Queens

BY ALLEN LATHAM.

On page 445 Mr. Alley says: "I wish to inform the bee-keepers of the world that no bees, queenless or otherwise, ever destroy or tear down queen-cells that contain *live* queens. A colony having a queen (either a virgin or a fertile one) will not destroy a queen-cell until a queen first stings the imprisoned or embryo queen; then the worker-bees complete the destruction."

I know Mr. Alley, and I know that he believes that he is right. He will say, too, that others are mistaken in believing that bees will tear down cells when no queen is present. I wish that he was right, for then I should never bother to protect cells with cell-protectors made of wire-cloth. If bees are imprisoned in a hive they will gnaw away at a queen-cell till all the wax is off the cocoon portion, and frequently get a hole through above the cocoon. As soon as that hole is through it is good-bye queen, unless help comes.

Therefore, Mr. Alley, I refuse to be informed, and I rather think that I shall not be in a class of one in refusing to learn this lesson.

Does Mr. Alley, or anyone else, believe that a queen can sting the imprisoned virgin or embryo before a hole is gnawed? Does any one think that it is possible to thrust the sting through a wall of wax? If he does, then his power of belief is *big*.

I wish to inform the bee-keeping world that the embryo queen, or the imprisoned queen, is never stung till after a hole is made in the cell. Personally, I doubt if the embryo queen is usually stung at all. A vigorous virgin nearly ready to emerge may arouse the ire of the free virgin, and be stung, but many an embryo is simply hauled out by the workers.

The hole is begun by the free queen. As soon as a cell is thus injured the workers will tear it down.

Many a time I have seen cells with holes in them, and the queen inside still alive. Has Mr. Alley not seen this? If the queen is alive, has she been stung?

Last fall I was tardy in caring for a batch of cells, and when I went for them I found that a queen was out gnawing at the other cells. In one she had a hole which had been enlarged enough to pass a small pea through. Though others had been gnawed, none had holes. I wished to save all the queens possible, and as I had been successful formerly in patching up torn or broken cells, I determined to save this one with the hole in it. I laid a bit of comb foundation over the hole and sealed it down with a hot iron. That cell and all the others of the batch hatched strong queens. The one in particular, which, if Mr. Alley is right, had been stung, became mated and showed every appearance of being a good queen.

If Mr. Alley can explain away the last-stated stubborn facts, perhaps I shall relent and consent to be informed. Mr. Alley is a man of wide experience, and he has kept bees twice as long as I, and I naturally would hesitate to question what he has to say. I have read the article from which I quoted with great interest. There are lots of good things in that article, but in the case quoted Mr. Alley has proved himself mortal, just like the rest of us.

Norwich, Conn.

⁂

13—Dadant Methods of Honey-Production

BY C. P. DADANT.

A MUCH-DEBATED question in the production of extracted honey is whether to remove the honey before it is ripe, and ripen it by artificial means, or remove it only when entirely ripened. We prefer the latter method.

When the first extractor was introduced, bee-keepers had much less experience about the ripening of honey than they have to-day. It seemed quite natural to remove the honey just as fast as gathered by the bees. Larger quantities could thus be harvested, but it did not take the producer long to find out that such honey often had no consistency, and would run like water. In fact, fresh harvested honey often drips from the cells when the comb is slightly inclined out of the perpendicular. This is, however, by no means constant, for some kinds of honey, in dry seasons, prove ripened very shortly after the gathering. Honey from heather is often mentioned by French apiarists as impossible to extract, owing to its great density. I have never had the good luck to visit a producer of heather honey, or I should have made particular enquiry as to the possibility of extracting it promptly after it has been brought in.

But our main crops of honey in the Middle West are not such as will bear being harvested at once without requiring artificial ripening afterwards. We have tried both artificial ripening and the more popular way of allowing the combs to remain in the super until the bees have thoroughly evaporated the excess of moisture. The latter method is, in our opinion, much preferable. There is but one thing that would induce us to extract honey before it is fully ripe—the impossibility of furnishing the bees with a sufficient number of supers.

We have seen a few such seasons, and in those instances we have taken the pains to place the honey in open tanks in warm rooms. Usually, when there is an extraordinary season, the honey is less watery than in poor seasons, and the time required for ripening is therefore less. A very wet season, when honey contains a great deal of water and evaporates slowly, is usually a poor honey season anyhow. In such a season we leave the supers on until a few days after the crop is over. We have sometimes taken the additional precaution of keeping the greater part of the honey in a tank for a few weeks. In a first-class year, if we are compelled to extract for want of a sufficient number of supers, we sometimes take off the first supers filled, leaving the last one on the hive for later extracting.

The question has often been asked: Must honey be sealed over to be considered ripe? I do not believe that sealing is a criterion. There are seasons when the bees will seal combs when the honey is insufficiently ripened. We have seen this happen oftener with basswood than with any other crop. In such cases the honey may ferment, and will, a little later, burst the cappings. This may not be noticed if the honey is still on the hive, for the bees will then look after it and probably manipulate it and transfer it from one cell to another, as the careful housekeeper transfers her preserves when they show signs of fermentation. The bees have not the resource of boiling or heating their stores to remove the germs of fermentation, but trust them to do for the best with the means they have at hand. But if the honey which is capped and unripe has been removed from the hive by the bee-keeper, and has been extracted, he will soon notice that it forms gas-bubbles, and the watery portion will come to the surface. If the honey has been kept in the comb, the capping bursts and the liquid honey forms out. But this sealing of unripe honey is a rare exception. As a rule, the bees are very careful to ripen the honey thoroughly before sealing it.

On the other hand, if the bees have been supplied with a great deal of empty comb, and if the colony is very populous, the honey will be scattered over a great area in the super and will be ripened readily, but little of it will be capped, until they ascertain that the crop is coming to an end. In such circumstances the more or less capping of the honey will depend most probably on the temperature. If it is low, the bees will concentrate their stores over the cluster and will more readily seal a part of the filled combs. If the temperature is high, and the hive very populous, the honey will remain scattered over a greater area and less of it will be sealed.

The temperature has a great deal to do with the behavior of the bees, and it is probably owing to its action that bee-keepers differ in their opinions as to the actions ot the bees. In Northern latitudes, where the nights are cool, the question of retaining the heat in the hive has a much greater influence on success than in localities where the great question is how to keep the temperature of the brood-nest and of the supers low enough so that the combs may not break down. So we can not lay down any rule that will serve for all climates, as to whether we may expect the bees to ripen all their honey before any of it is sealed, or whether they may seal it as fast as ripened. It is a good thing to err on the safe side, and wait until a great portion of it, at least, is sealed, before attempting to remove it. But in any case where there is doubt as to the sufficient density of the honey, it is well to keep it in an open vessel in a warm room—in as hot a room as you may have—during the remainder of the summer.

The late Chas. F. Muth—who was an authority on honey, because he produced so much of it and bought and sold hundreds of tons of it—was in the habit of ripening his honey regularly, by storing it in tanks, covered with a cloth, in an attic. Honey harvested in June or July was thus kept by him until early in September, when it was put in retailing packages, and would granulate almost immediately afterward.

Our method has been to remove the honey only when it is ripe, as far as we can judge, and it is only in very rare instances that we have made any mistakes. Cool, wet seasons are the most dangerous. But we have harvested hundreds—I might almost say thousands—of barrels of honey which was barrelled at once and rolled into a dry cellar, and did not see the light again until it was prepared for retailing, in October, when we found it almost invariably perfectly solid, with a regular grain of granulation, resembling butter.

I see that lately a number of our European experimenting apiarists are discussing the density of honey, and great differences are shown as to its condition when first harvested. I believe many people have but very remote ideas as to the great differences in density of honey fresh-gathered in different countries, under different degrees of heat, and with different hygrometric conditions. Stating how much water fresh honey contains would be as impossible as stating how much rain-fall may be expected during any one month in any locality. Hamilton, Ill.

Pollen—How Use to Best Advantage

BY G. M. DOOLITTLE.

EARLY pollen," has a musical sound to all bee-keepers, and when you ask one as to the time of year that the bees first begin to gather pollen in his locality, he is all attention, and will tell you the earliest period he ever knew the bees to bring in the small loads, which are the harbinger of brood-rearing. But ask the average bee-keeper from what source this pollen comes, and four out of five can only guess at the matter, and that guess twice out of three times will be, "from willow."

This guess may be right in some localities, but in this locality the first pollen comes from what is more commonly known as "skunk cabbage," from the smell the plant emits when the leaves are bruised, and from the cabbage appearance of its growth when it has arrived at maturity. But in early spring there is nothing to be seen of this cabbage growth; just a gnarled, pointed, reddish-colored hood, that rises about 2 or 3 inches out of the ground, inside of which, rising on a stem, is a little ball of flowers about as big as a marble, and this ball of little, short flowers are very rich in pollen. The hood has on one side, a slit or crevice in it, ofttimes hardly large enough for the bee to squeeze in, and as the ball of flowers fills the hood to within about bee-space all around, the bee which works on skunk cabbage for pollen gets covered more or less all over with the yellow dust, so that it makes her appear almost a laughable object as she runs into the hive. I have seen this dust from a thirty-second to one-sixteenth of an inch thick on the back or upper side of the abdomen of bees when they are entering the hives, though this is the extreme.

Then the hood protects and keeps the bee warm when at work on skunk cabbage, so that they will gather pollen from this source when it would be too cold to gather pollen from the trees, were the willow in bloom at this time. I have known bees to get pollen from this source as early as March 10, but it is more often from the 10th to the 15th of April before any pollen is obtained here in central New York.

Following skunk cabbage comes the soft maple, from which the bees obtain pollen of a reddish tinge; and 2 or 3 days later the elm blooms, from which a liberal supply is obtained, if the weather is fine. This gives the bees a great start at brood-rearing, and an advance which is rarely checked by all the unfavorable weather which may come thereafter. However, in occasional years, we have a severe freeze just at the time all these early pollen-producing flowers are about to open, which spoils the whole, and in such years it is uphill business for the bees till the willow and hard maples bloom, when large quantities of pollen are usually obtained.

As I said to start with, early pollen is something that all bee-keepers are joyful over, but in some localities, later on, bees store so much pollen in their combs that it seems to those not as familiar with the inside workings of the hive as they might be, that some device for removing this pollen would be of great benefit to them, for at a bee-convention some years ago I heard offers as great as $25 from a single person for some plan to remove pollen from the combs.

Some advise putting these combs of pollen into tepid water and soaking a week or so till the pollen becomes soft and mushy, when the combs are to be put into the honey-extractor and the pollen ad water thrown out. Others advise making combs containing much pollen into wax, and then work the wax into comb foundation to put into the hives for the bees to draw out into comb again; but all such advice seems to me to be a damage rather than a help.

In this locality wet get large quantities of pollen—probably as much as is gathered in any place in the United States—yet I have never soaked or melted up a single comb on that account, neither did I ever have any thrown out by the bees, as others claim they have, unless said pollen had become moldy.

With me there are two different periods in which the bees store much more pollen than is worked by the nurse-bees into chyme for the young brood. One is during the bloom of hard or sugar maple, and the other during white clover bloom. I have had combs of pollen gathered from the yield during hard maple which weighed as high as 4½ pounds. At such time as this I work as follows:

Whenever the bees gather so much as to crowd the queen, I take it away for the time being and place empty combs in its stead. If there come a few rainy or windy days at this time I find that this pollen is all exhausted, so that the cells are once more empty or filled with eggs, as it takes large quantities of food for the numerous brood at this season of the year. After apple-bloom there is little for the bees to work on, and the surplus of pollen is all soon used up, and more needed, when I set back that which was removed, and thus brood-rearing is kept up more effectually than by feeding syrup, honey, or any other plan of stimulative feeding, providing there is plenty of honey in the hive, which there generally is, if bad weather has not cut short the yield from the apple-bloom.

I consider plenty of pollen in the combs during the period of scarcity between apple and clover bloom of great advantage, as it keeps brood-rearing going on without a break till the honey harvest arrives.

The pollen gathered during white clover is treated differently from that gathered earlier. The early rarely ever has honey placed top of it, while that from clover is placed in the cells till they are nearly ¾ full, when the cell is filled with honey and sealed over so as to preserve it against a time of need the next spring, or before bees can gather from natural sources in the early part of the year. During the summer, as I find combs containing much pollen in this preserved state, they are hung away in the room for storing combs; or, if it is so early that the wax-moth is troublesome, they are stored in upper stories over weak colonies of bees where they will be protected till ready for their winter storage. Where stored in a room, they must be looked after, and fumigated if the moth becomes troublesome.

Combs containing much pollen under honey are distinguishable from those without, by holding them up before a strong light and looking through them, unless the combs are very old and the cells filled with the cocoons left from the maturing brood.

When spring opens I again take the opportunity of placing all combs I have on hand containing pollen, near the brood, and find that this, together with the honey stored over the pollen, which honey has to be removed before the bees can get at the pollen, answers a better purpose for stimulating brood-rearing at this time of the year, than the feeding of pea, rye, or oat meal, as some recommend. In this way the pollen is used up to a far better advantage than by inventing a machine to remove it from the combs, and saves all trouble of soaking or melting the combs as well.

Borodino, N. Y.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Specialize in Bee-Keeping

A plea for specialization in bee-keeping, by L. B. Bell, of Arizona, appears in Farm, Field and Fireside. After speaking of the troubles of mixed farming and bee-keeping, he says:

> What show has an amateur to compete with men equipped for the fight like R. F. Holtermann, of Canada, Gill, of Colorado, or Alexander, of New York?
>
> But, your amateur says, "These men began in a small way and worked up." True; but if you've got the bee-fever so bad you just can't let it alone, go and spend a season with some of these men and learn the business before you put a dollar into it. Most of these men will shout a hearty "Amen" to that, and you would, too, if you could go along the trail of the "working up" process and see how many wrecks there are and how few got there.
>
> Human life is too short to have any of it wasted in dabbling.

A Bumble-Bee Apiarist

> Mr. Frank Kelly, of Elgin Co., Ont., is a farmer who makes a specialty of sheep and clover seed, and also keeps bees. He recently described an ingenious system of ensuring the fertilization of the red clover blossoms. He pays the boys of the neighborhood 25 cents for every bumble-bee's nest they locate for him. This he then moves to his own premises. He inverts over the nest a funnel-shaped screen, with a small hole in the top leading into a little box. By stirring up the bees he gets them all into the box, and then takes up the nest and transports bees and all to some convenient spot on his farm. In this way he has almost "cornered" the bumble-bees of his neighborhood. In winter he protects them from mice by putting over the nest an oblong hardwood box, say 20 inches long by 10 or 12 inches wide, and the same height. A small hole, protected by a piece of tin to prevent mice gnawing it larger, permits egress and ingress of the queen. As a result of his pains, Mr. Kelly grows large fields of clover seed, averaging 4 or 5 bushels per acre. Those living near him get good crops of seed.
>
> Mr. Kelly related an interesting experience of one year when he had pastured with sheep a field of red clover, taking the sheep off June 15. The second crop blossomed beautifully, and neighbors declared it the finest they had ever seen. It was, however, a little too early for the bumble-bees, and no seed worth mentioning was secured.—Farmers' Advocate.

This is the Mr. Kelly mentioned in this department some time ago.

National Control of Food Supplies

The Canadian Grocer has a synopsis of a lecture delivered by Anthony McGill, before the Ontario Grocers' Convention, on "National Control of Food Supplies," from which we can profitably take notes:

> Food inspection is a comparatively modern innovation. About the middle of the last century Dr. Hassall published in the London Lancet an extended series of investigations into the character of the various foods as offered in the London markets. A commission was appointed, and the first Adulteration Act in England was passed; Canada followed in 1874. The Act has undergone many amendments since that date, in consequence of increased experience in its working, but the fundamental principles remain unchanged.
>
> ### What Adulteration Is.
>
> It defines adulteration as follows:
>
> 1. If any substance has been mixed with it so as to reduce or lower or injuriously affect its quality or strength;
> 2. If any inferior or cheaper substance has been substituted, wholly or in part, for the article;
> 3. If any valuable consistent of the article has been wholly or in part abstracted;
> 4. If it is an imitation of, or is sold under the name of another article;
> 5. If it consists wholly or in part of a diseased or decomposed or putrid or rotten animal or vegetable substance, whether manufactured or not; or in the case of milk or butter, if it is the produce of a diseased animal, or of an animal fed upon unwholesome food;
> 6. If it contains any added poisonous ingredient which may render such an article injurious to the health of a person consuming it;
> 7. If its strength or purity falls below the standard, or its constituents are present in quantity not within the limits of variability, fixed by the governor-in-council, as hereinafter provided;
> 8. If it is so colored or coated or polished or powdered that damage is concealed, or if it is made to appear better or of greater value than it really is.

Mr. McGill cites the modern tendency to manufactured foods of all kinds, and the achievements of chemistry in introducing new food products such as glucose, cotton-seed oil, cotton-seed stearin, coal-tar dyes, synthetic flavoring materials, chemical preservatives (such as salicylic acid, formalin, etc.); these substances enter into the composition of modern foods to an extent little imagined by the ordinary consumer. He does not find fault with the inventor of new food materials, but mentions the danger of trying radical experiments with the workings of the human digestive organism.

> Again, in the manufacture of many new food substances, powerful chemicals are used, and great care is necessary to make sure that these are properly rendered harmless before the finished product is put on the market. Many cases of poisoning through the use of dyes containing arsenic, glucose containing free acid, and other similar instances are on record. I must, however, bear testimony to the great care which is nowadays taken by manufacturers, and to the purity of the products now offered.
>
> ### Chief Ground of Complaint.
>
> The chief ground of complaint rests in the non-acknowledgement of the presence of a foreign substance. The importance which this assumes depends greatly upon the point of view. To the consumer it means that he is ignorant of what he eats. To the honest manufacturer it is a very heavy grievance, since it means unfair competition.
>
> To the producer it is also a ground for complaining. What of the fruit-grower who finds apple, turnip or other pulp used as a basis for jams, sold as strawberry, raspberry, plum, etc., and dyed with coal-tar colors to imitate the genuine fruit? Just in the same way has the dairy farmer a right to complain of unacknowledged competition by the sale of oleomargarine or renovated butter for the genuine article; the farmer who raises pigs has a *bona-fide* grievance when cotton-seed products are substituted for lard, and so on.
>
> ### Who Shall Be Held Responsible?
>
> The consumer, naturally and inevitably, must hold the retail dealer responsible. The Adulteration Act provides the retailer with a safeguard in two ways:
>
> First, he may plead the guaranty of the manufacturer or wholesaler, provided that he has taken the precaution to obtain such.
>
> Second, the Inland Revenue Department (which is charged with the administration of the Food Act) provides an inexpensive means of acquainting him with the nature of the articles he sells, by chemical analysis at a nominal fee.
>
> The manufacturer may thus be held ultimately responsible for the correct naming of his goods. There is no bar to the manufacture or sale of any wholesome food in Canada (except butter substitutes) provided that they are correctly and honestly labeled. The Act requires that such articles be distinctly labeled as a mixture, in conspicuous characters, forming an inseparable part of the label.
>
> ### Penalties Provided.
>
> Distinct penalties attach to violations of the Act, and these may be classed as (1) penalties for adulterating foods, (2) penalties for selling adulterated foods. If the adulteration is deemed injurious to health, the penalty for a first offense may reach $200 and costs, or 3 months imprisonment, or both; if the adulteration be deemed to be not injurious to health, the penalty may reach $100 and costs, and is not less than $5 and costs.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Our Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

Pollen—Its Gathering and Value

It is good fun to watch the bees carrying in pollen. Our bees seem to have such a fine time of it, or is that only imagination? At any rate, they seem to hasten into the hive very eagerly as they come home with loads so big that one wonders how they stick to the pollen-baskets. A peculiarity is that the work of pollen-carrying is not evenly divided among all the workers; the most of them do not gather pollen at all, and the rest carry extra weight.

Most of the pollen is gathered in the forenoon, but if you watch closely you may see pollen carried in again in the evening, sometimes so late that you wonder that the bees can see to find their way home.

Not every sister estimates pollen at its true value. Honey is carefully saved, but many a comb of pollen is allowed to be spoiled without compunction, and yet weight for weight it is doubtful if the honey is worth any more than the pollen—possibly not so much. In early spring, if a colony is without pollen, not a young bee can be reared till a stock of pollen is secured.

The 8-Frame Hive vs. the 10-Frame for the Sisters

In general, the sisters will use the same implements and plans in bee-keeping as those of the sterner sex, yet equally in general they will have a preference for something lighter to handle, wherever there is a choice. In the matter of hives there is a choice.

A 10-frame hive is something like 20 percent heavier than an 8-frame one, and when one is lifting about to the limit of one's strength, an addition of 20 percent is no trifle. It is true that hives do not have to be lifted very often, in some cases not at all, and in the latter case the weight does not matter. Most of the sisters, too, can have help whenever a hive is to be lifted. But in running for comb honey there are the supers, and for the larger hives they are increased in weight to a corresponding degree. Even if there is no lifting of hives there is no getting along without lifting section supers, and they must be lifted so often that it is a matter of no little consequence how heavy they are. So, if for no other reason, any woman who is working for comb honey will be likely to look with a partial eye on the 8-frame hive.

But it must not be left out of consideration that a 10-frame hive is much safer for the bees than the smaller hive, and no woman should think of adopting an 8-frame hive unless she gives very close attention to her bees. Given the same care that will pass muster with a 10-frame hive, and there will be a lot of colonies starve every winter in the smaller ones. There must be extra combs of honey to give some colonies each fall, where 8-frame hives are kept, and again in spring some colonies will starve if left to themselves. Not that bees in larger hives are always safe from starvation, but they are safe as compared with those in smaller hives.

An objection is sometimes raised to the 8-frame hive because it is not large enough to accommodate a prolific queen. True; but neither is a 10-frame hive large enough, and there is no law against giving a queen 2 stories of 8 frames each, and with 16 frames she is not likely to feel cramped for room. Then when the harvest comes, one story can be removed and super-room given in its place.

When working for extracted honey, it is just as easy to handle the extracting frames in a large hive as in a small one, and the advantages of the larger hive for extracted honey are such that it has the general preference.

In comparing square with tall sections, there is one thing to be considered that makes more difference to women in general than it does to men. It is the matter of the weight of supers when the bees have filled them. A section 5 inches high is 17 percent higher than a 4¼ section, so a super of the 5-inch sections will be 17 percent heavier than one of 4¼ sections—a matter of considerable importance.

Another matter equally concerns both sexes: The super that is 17 percent heavier will take a longer time to fill, and in general there is likely to be a little more even work in a smaller super. At the close of the season, if the bees have just enough honey to finish up a super containing 24 pounds, there would be a shortage if they were asked to fill a super containing 4 pounds more. But that exact state of affairs might not often arise.

Early Swarming in Nebraska

My bees have commenced swarming, the first swarm issuing May 22. Is this not early for central Nebraska?

Westerville, Nebr., May 24. (MISS) JENNIE BOOKNAW.

Indeed it is early, and your bees must have been in good condition to swarm thus early. They probably built up so as to swarm in fruit-bloom—an unusual thing.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

A Sister Bee-Keeper in the South

MR. LOUIS H. SCHOLL:—My first experience with bees was 7 years ago when I found a very small swarm in my garden, and nothing else being handy, I simply put them into a flour-barrel.

To begin with, I was very much afraid of bees; in fact, all I knew about bees "was just to keep away from them." After calling up all the bravery I ever possessed—and, of course, I felt I was almost suiciding to attempt such a thing—I did really brush the bees in a paper pad and threw them under the barrel. I was almost ashamed to tell of doing such a desperate thing.

That little handful of bees did wonders the next spring. They stored such a lot of nice honey, and I am sure there was a half bushel of bees, but they never did swarm.

I kept them in the old barrel, and I never saw one colony store so much honey. I never have done as well with hives, and talk about non-swarming! If you will give them a barrel you won't be bothered with swarms!

But now I am not any more afraid of my bees, wearing neither gloves nor veil.

I can not say whether or not my bees are blacks, but they are not vicious. Any one can handle bees if he or she is not afraid of them. I love my bees, and just live with them. I do believe they love me, for I can hardly work in the garden, they follow me so much.

I have been feeding my bees lately on cake-sugar. It does not dope them like syrup.

Our main source for honey here in Arkansas, I think, is from chinquapin. We also have corn and cotton-bloom. Some say bees do not pay here, but that is not right. My husband is a cotton buyer, and, of course, we have to live in town. My bees are within 10 feet of the sidewalk, but they never bother any one. They are only common bees. I have ordered Italian queens. Can I take brood out of one or two hives and put it into a new hive and put the ordered queen with them? Of course, take some bees with the brood. I want Italian queens, but do not like to destroy the common queens. The bees in this part of the country are of a very common kind. They do not store more than 30 pounds per colony the first honey-year. I feel sure that with improved stock we could beat that.

I had a swarm act strangely last summer. They swarmed May 1, and such a fine swarm, too. But only half of them would work; the other half clustered on the outside of the hive, and just lay there until cold weather drove them in. Were there 2 queens, or what was the real trouble?

The American Bee Journal is a fine paper.

Magnolia, Ark. MRS. JOHN WILLIAMS.

We are glad, indeed, to have our sister bee-keepers take a part in "Southern Beedom." I have often been told by "elder brethren" that we needed the ladies to help us to be successful in life. I, myself, do not know much about that for—I am not yet married; they were. However, we will be glad to hear from other sister bee-keepers of the South.

There are a great many bee-keepers who were at first very much afraid of bees, but who soon got over their timidity and became successful bee-keepers. One person I have in mind in particular, declared that he would not go near a bee-hive "with a shot-gun," but soon afterward he surprised me very much, for he had purchased a dozen colonies of bees. Ever since then he has been a bee-keeper managing several apiaries, and securing large crops of honey.

The trouble with your swarm acting so strangely might have been for several reasons. Perhaps the hive was not large enough. Or the hive was poorly ventilated by the entrance being too small. My summer hive-entrances are large—¾ inch deep, and the full width of the hive. The small ⅜-inch-depth entrance is too small, and, with a large colony, clustering out would very likely result until cooler weather.

Your experience with non-swarming of a colony in a large flour-barrel is quite in accord with the experience of the advocates of large hives to reduce swarming. It was not the barrel, of course, but the large amount of room in it that prevented swarming. The same could have been provided in a large hive.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Advertisements Valuable as History

Mostly we don't read bound volumes of back numbers as much as we expected to when we bound them—and when it comes to looking over *very* old ones the advertisements strike us as a very interesting part of the book—much that once made a great stir being now comically obsolete. Should decidedly object to having the ads missing from my back numbers. Obliterating them would be obliterating history, as our Editor suggests. Page 381.

Swarm and Drone Prevention

So H. S. Philbrook's idea of swarm prevention is to get the queen into business in an added story below. He finds it working well the second year. Good—so far! But, as the elements of non-success are evidently pretty thick, we must have wide and numerous successes before we draw final conclusions. Some Cyprian blood in this case it seems; and that makes it abnormal to a certain degree. We seem to get a sort of a hint that the held-in-reserve Davenport plan is the same.

Mr. Philbrook seems to have made a positive addition (although a minor one) to our manipulations. He finds that unsealed drone-brood, when sprinkled with sulphur, are immediately pulled out and carried out of the hive. Easy, and good. Page 383.

Weak-Colony-Over-Strong Experiences

And here are more experiences with the pig-a-back style of keeping a weak colony warm over a strong one. On page 390, A. L. Oliver lost half his queens. On page 411, V. Goodnow fails with 4 trials.

C. Davenport Safe in Minnesota

Those that don't believe that C. Davenport's swarm-controlling method amounts to much will don't believe it still more after reading his letter on page 401. Lucky for C. D. that the Emperor Tiberius is not reigning in Minnesota. His way of keeping dangerous secrets from getting abroad was to chop off the inventor's head.

Brown-Tail and Gypsy Moths, and Potato-Bug

And now the insect invaders of national importance that are trying to fight their way across our continent are *two* instead of one—the Brown-tail moth in addition to the Gypsy moth. Even if Massachusetts should be defeated in its heavy fight (as looks possible), the rest of the country is realizing profit at the rate of very many millions of dollars a year from each year of *delay*. Strange that people should forget that part of the situation—and sheepishly conclude that it is a useless fight that is going on. What could Ohio have afforded to pay if the potato-bug could have been delayed 40 years in its march to our borders? And both the insects referred to seem likely to prove very much greater scourges than the potato-bug. Gypsy eats everything green except the farmers themselves—and could it be induced to eat some of them the situation might be bettered. Just as the potato-bug left alone kills out every potato-plant in the field, so Gypsy left alone reduces territory to a desert. Page 383.

Queens and Drones Can't Digest Pollen?

So Stachelhausen thinks that drone and queen are both unable to digest pollen for themselves. Quite possible. The alleged fact that drones only live 3 days when put with plenty of each kind of food but removed from the workers is pretty good evidence so far as they are concerned. Page 386.

Zinc and Tin Queen-Excluders

Dr. Miller answers "Ontario," on page 390, that it is bad economy to cover only part of a super-bottom with excluding zinc and the rest with plain tin. As a general proposition I will not quarrel with this; but my strain of (hybrid) bees seems to be characterized by unusual willingness to store remote from the brood-nest. All my extracting supers are that way—have been so for many years—and I wouldn't tolerate it if I could see that I was losing anything material by it. My bees often bother me by putting too large a share of the fall honey above, almost never by putting too large a share below.

That Mouse-Eating-Honey Controversy

Mr. Doolittle thinks the method proposed to show that the mouse does not relish honey would also show that the old soldier does not eat hard-tack. Never mind. I can't afford to squeal much over my own wounds in the scrimmage for pleasure in seeing him support another of my none-too-well-supported conclusions. In his actual experiences he has had both a chipmuck and a red-squirrel as pets, and both became serious nuisances on account of their fondness for honey. So I was right in ranking these animals next to the bear in that respect. I'm still "chipper" with hope that I'll turn up all right about the mouse, also. My saying that the mouse peels the cappings off honey for pastime I am willing to withdraw, or at least put it on the doubtful list. But I jump right to another inference that may worry Mr. D. still worse. After the raw and freshly lapped surface has stood for a few hours in a somewhat damp atmosphere the mouse can *lap it over again and get some water*—and again by and by. He has learned to do this as one help in the struggle for life in rooms where water can not be gotten at. But if this is not right I am still glad the performance has been viewed by a competent observer. Does not look exactly like play, at any rate. Page 403.

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Bees Hanging Out—Moving a Swarm—When to Take Off Full Supers—Hive Portico

1. The bees of one of my hives cluster around the entrance. This commences about 3 o'clock and gets worse until about dark. What causes this? The entrance is shaded and part of the hive, but the entrance is only ½x8 inches, and can not very well be made larger. It is a 2-story hive.

2. I bought a colony of bees in an 8-frame hive, the frames being 11½x11½, and this hive was nailed shut so that no bees could get into the super, and now they fill one outside frame with honey and do not yet work in the super. Was this comb built so that no brood could be reared in it? The cells are curved upward, and are irregular. Should I cut out the comb, put in a foundation starter, and place in the middle? This colony was pretty weak, but is getting better populated, and was, no doubt, a swarm of last year.

3. What is the best time to move a swarm after it is hived?

4. To remove a super should one wait until the honey is all capped?

5. Is there any advantage in a hive having a portico in front?

PENNSYLVANIA.

ANSWERS.—1. As early as the last of May it is not usual for bees to hang out in that way, and results from the fact that the colony is too large for the hive they occupy, or else that it is too warm for them. An entrance ½x8 is pretty small for a strong colony on a hot day, and if you can not make it larger you can give them a little ventilation above by allowing the cover to be partly open.

2. I wouldn't be in a hurry to cut out that frame, for it is likely they can rear brood in it all right if they want to. If you want to make sure whether they can or not, uncap the sealing of the comb and put it in the middle of the brood-nest, and you will probably find brood in it a week later. It is possible that in some way there is not as direct communication as desirable between the brood-chamber and the super. It will help to start the bees at work in the super if you put in it a piece of comb on which the bees have already worked, with either honey or brood, although empty comb that has been drawn out will do very well.

3. Right away after you get the bees of the swarm in the hive. Don't wait to get a few scattering bees in; they can find the swarm where you put it, or else they can go back to the old hive. If you leave the hive standing till dark before putting it on its stand, as was formerly the custom, there is some danger that scout bees which found a suitable place will coax away the swarm to that place. At least, that is said to be the case.

4. No, if you wait till the outside sections at the corners are sealed, the central ones will become darkened. However, that doesn't hurt the taste of the honey, rather improves it, and if you want the honey for your own table, caring for the taste and not the looks, then there is no harm to have the central combs darkened. But the market demands sections of snowy whiteness.

5. It protects the bees against rain when they are clustering out. But it makes the hive warmer on hot days, and it furnishes a good place for spiders.

◆

Likely Not Foul Brood

Will you kindly tell me if the enclosed sample is foul brood?

ARKANSAS.

ANSWER.—I am not an expert in foul brood, but I don't think there is any foul brood in the sample sent. It looks like chilled brood. If there has been no chance for chilled brood, poisoning may come in for suspicion, with just a possibility of something like pickled brood. You see I don't know very much about such things, and any one who has anything in that line should send a sample to N. E. France, General Manager of the National Bee-Keepers' Association, Platteville, Wis. If not a member, send Mr. France a dollar to make you a member.

A Little Foul Brood—Queen-Excluder Under Extracting Supers

I left a shallow extracting super on nearly all of my bees last winter. Some died, and I found a few colonies lightly affected with foul brood; say 10 to 50 cells in a hive failed to hatch. The combs in the supers were perfect—never had brood in them.

1. Is there any—or much—danger of such combs being affected?

2. If so, would I be the gainer or loser to put those supers on colonies that I will transfer into clean hives with comb foundation starters next spring?

3. Does it pay to use queen-excluders over the brood-chamber for extracting? Or would it pay better to let the queen lay where she pleases, and only extract frames with no brood and sealed brood?

OREGON.

ANSWERS.—1. It is not likely there will be any danger from using them.

2. You ought to gain by the value of the combs.

3. I don't know. A great many consider excluders indispensable when working for extracted honey, but so good a bee-keeper as C. P. Dadant says he has no use for excluders under his extracting supers.

◆

No Queen-Excluder Under Sections

Would it be advisable for me to use a queen-excluding honey-board when I run for comb honey? I never have had any trouble with queens or drones going up into the sections? It seems to me that the bees can work better in the supers without the board.

MISSOURI.

ANSWER.—If your queens never go up into the sections, what good can an excluder do? I can not say that my queens *never* go up into the supers, for once in a great while one does go up, but I would rather stand the inconvenience of those few times than to have excluders, so I never use them under sections.

◆

Destroying Ants in Hives

How can I destroy ants? My hives are just covered with them.

MINNESOTA.

ANSWER.—If the ants have their nest under the hive or somewhere near, pour gasoline or kerosene upon them. If their nest is inside the hive, it is because there is a warm place there for them where the bees can not get at them. Powdered borax sprinkled in such places helps to make them disagreeable for the ants, but the best way is to have no place for shelter where the bees can not get at the ants to rout them. If quilts are kept over the frames, that suits the ants exactly, but with only a flat cover over, the ants can find no place safe from the attacks of the bees.

Reports and Experiences

Watering Place for Bees

I am taking 2 bee-papers, and while I am able to keep bees I can not see how I can get along without them. I learn many kinks by reading the experiences of others, that save me much time and labor to work them out myself.

The little item in the Journal a few weeks ago about providing warm water for bees by means of a lamp under a suitable pan, is alone worth the subscription price of the paper in this late, cold spring. Only in place of a pan I made a neat, wooden trough 10x20 inches in size, with a galvanized-iron bottom, and I find it is just the thing. An empty 500-section crate with a little fixing makes an ideal box to put the lamp in, and to set the trough on, and the lamp from the Daisy foundation fastener, with an inch block under it, is just right for the business. If the water thus warmed is put out early in the spring, and the bees attracted to it by means of pieces of comb, they will commence using it before they get in the habit of getting water elsewhere, and will stick to it instead of going to roadside ditches and other places far away from home, where they get chilly water and thousands never get home, and that in a time of the year when every bee is needed in the hive.

I find a good plan is to fill the trough with lukewarm water in the morning, then turn the lamp just high enough to keep the water warm enough. A ½-inch board large enough just to go inside the trough, and bored full of ½-inch holes, makes an ideal float.

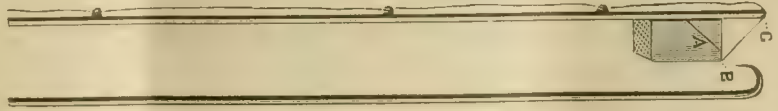
Bees wintered fairly well outdoors, but consumed much honey and need feeding now. There is much fruit-bloom, but the weather is too cool for bees to get much benefit from it.

A. H. SNOWBERGER.

Huntington, Ind., May 8.

A Home-Made Swarm Catcher

I enclose a drawing of a swarm catcher that I made myself. It is not patented, and any one with a little mechanical skill can make one. I have all my queens clipped, but occasionally I have a second swarm, and if the bees settle high up in some valuable fruit-tree I can get them without climbing or cutting the tree.



The Kilgore Home-Made Swarm Catcher and Shaking Pole.

To make it, get a small, light pine box about 8x10 inches. Knock off two sides of it and replace them with wire-cloth, which will make it still lighter in weight. Fasten two small hinges to the top for a lid.

Now get an 18-foot light pole; fasten the box to the end of the pole, as shown in the picture, and fasten a short rubber band at A to pull the lid shut. Then fasten a stout cord at B on top of the lid, and have it go over the pole at C and run down to the bottom.

To operate the swarm catcher, push the box up to the swarm, pull the string and open the lid. Now give the pole a quick push up against the limb, when the bees will fall into the box. Release the string and the rubber band will close the lid.

Dump the bees in front of the hive, and if they are not all caught use the box a second time.

I also have an 18-foot pole with a hook on the end, and if the bees persist in returning to the limb of the tree, hook the pole over the limb and keep shaking the limb until all come down and go into the hive with the swarm.

I like this arrangement better than the Manum swarm catcher. My outfit is a success with me, and I could not do without it.

London, Ohio. S. G. KILGORE.

Black Bees vs. Italians—Large Hives

'Tis not always gold that glitters. 'Tis not always beauty that shines. Though often designed to construe another meaning, yet it will very fitly apply to the fakes and fancies in the apicultural field of to-day.

What is the prime object of the toilsome bee-keeper as he launches his little craft upon the sea of apiculture? Is it fame? Is it glory? No. Canst thou, by taking thought, add one cubit to thy stature, or canst thou make one hair white or black? Well do I remember as I scan backward across the ledger of life radiant with boyhood's dreams and fancies, how I loved to watch the long rows of bee-hives, and guess this one will swarm to-day. See how they cluster out! How rich they must be! Perchance I ran acrosss an advertisement of queen-bees; I at once ordered a catalog, and then a book on bees. My fancy was stolen away as I unfolded its magic pages.

My post-office was then 5 miles away. In the morning I hurried off for Beech Creek office to order an Italian queen. It's almost a sin to keep black bees according to the book I bought. In due time I went to the post-office to see if her majesty had arrived. I made the usual inquiry, "Is there any mail?" "Yes, sure. A little box full of flies." I hastened way with my "Italian flies." The queen was safely introduced by the old Peet method, and another was ordered.

The queens wintered in fine order. The following summer was poor, and there was no chance for comparison between the races. But many more yellow queens were ordered. The next season was fairly good. As usual I put sections on all the good colonies. Upon examination a few days later I found in most of the hives active work was going on in the sections, while the Italians were doing nothing upstairs.

But, hark! whence comes that sharp, buzzing sound that has run so often in every bee-keeper's ears? Yes, sure as fate, No. 20—my fine yellow colony with a Dixie queen—is swarming. And so in turn as the days go by the long ladder is mustered into service almost every day, hiving those pesky Italians. But what are the blacks doing? Look in their boxes—they are almost full, and only 2 swarms! Fall comes, 85 pounds average for the blacks and 25 pounds for the Italians. Surely, my object was accomplished. I had

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What Dr. Miller Thinks of the Bee Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. Miller.

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turned a leaf and begun working for glory. I got the glory, but precious little honey. Probably the Italians would have made things hum for extracted honey with plenty of empty combs. This shows that nothing is perfect under the sun. Though I am proud to say I have had some better success with Italians of late. I had a few hustlers, but, after all, the honey was not so fancy. It looked greasy or water-soaked, and did not demand the high price that we got for No. 1 fancy.

In the mountains of Western North Carolina are wide stretches of forests where the sound of the woodman's ax is not heard; where are towering cliffs and lonely dells where Nature weeps and echoes die. Here the black bees have found an ideal home, as the years have passed.

I procured from a colored man a colony of black bees from a remote place 12 years ago. It was in a section of a hollow tree called in the South "a gum." It was so heavy that I could carry it only a few steps at a time till I must rest. At length I got it home to my apiary. The following spring I transferred the bees to frames and gave them 2 stories of 8 frames each. The hive stands there yet. I never have fed those bees a pound. They don't swarm, and never fail to give their quota of honey and of the best quality. Can we not infer from this that through ages in places so roomy the instinct to swarm has been lost?

This brings us on to large hives. The convenience and adaptability of small hives may be painted in glowing characters by their many advocates, but after a series of years I am forced to the conclusion that the majority of bee-keepers are using too small a hive, not only in the South, but in the North also.

On this my first trip North (to Hudson, N. Y.) I noticed the same contrast between large and small hives as I find in North Carolina, the large always far outstripping the small. Some have objected to the honey that must go to the brood-chomber of a large hive as dead capital. Would you not as well object to the large slices of meat that lie on the platter, upon which your children feast to give them bone and muscle to surmount the problems of life? So with the busy bee—too much is just enough. G. W. McGuire.

Dark Ridge, N. C.

Prospects All Right

We have had no frost to injure fruit-bloom so far this spring; no excessive rain either, and the prospects for bees and fruit are all right, up to date.

My bees are just booming, but I have experienced too many "slips between the cup and the lips" in my life to be too hopeful.

Wm. Stolley, Sr.

Grand Island, Nebr., May 22.

Rain Starts Bees on Clover

It has been exceedingly dry here, and vegetation is beginning to dry up. A good rain yesterday has started bees on white clover.

Bellevue, Ohio, June 6. H. G. Quirin.

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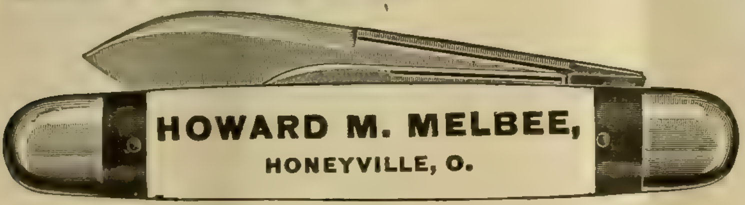

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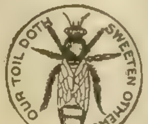
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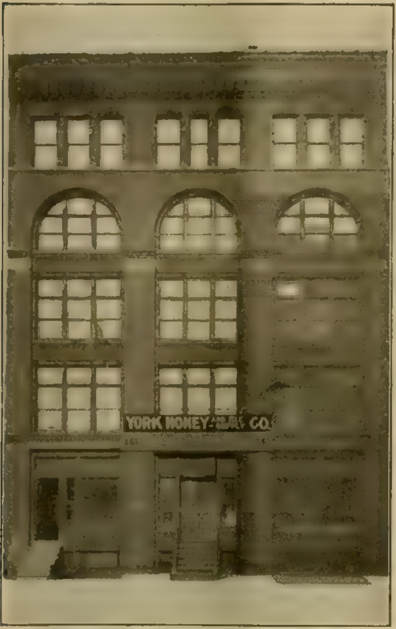

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Honey and ✢ Beeswax ✢

Chicago, June 5.—The honey market is in about the same condition as when we quoted last. Very little call for either comb or extracted. No. 1 white comb, 15c; other grades, 10@14c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c. R. A. Burnett & Co.

Toledo, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. Griggs Bros.

Indianapolis, May 12—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, May 31.—The season is so far advanced that there is not enough call for comb honey to fix a price. Some few lots are being sold at the best offers. We quote: Extracted, fancy white, 7c; amber, 5½@6c. Beeswax, 29c.

We are producers of honey and do not handle on commission. Wm. A. Selser.

New York, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
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Cincinnati, March 8.—The conditions of the market, at the present time, are not encouraging. Honey is offered from all sides, at prices utterly regardless of the value of the article. At the same time, all indications point to an unusually good honey crop, which adds in making it a drag on the market. Amber extracted honey in barrels, 5@6½c; fancy white, in cans, 6½@8½c. Choice yellow beeswax, 30c, delivered here. The Fred W. Muth Co.

Denver, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
The Colo. Honey-Producers' Assn.

Kansas City, May 31.—The honey market here is bare, no new honey in market yet. The market is about $3.25 per case on fancy white. Extracted, 5½@6c. On account of the warm weather and heavy receipts of fruits, the inquiry for honey is dropping off, but we believe with the advent of new honey there will be a good demand for same. C. C. Clemons & Co.

Cincinnati, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c. Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
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46th Year JUNE 21, 1906 Number 25

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(See page 522)

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American Bee Journal

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Contents of this Number

Illustrations—

Aspinwall, L. A.. 538
Dewey's Foundationer.......................... 532
Pettit, Morley......................... ......1st Page
Scholl, Louis H..............................1st Page
Stachelhausen, L.............................. 534
Townsend, E. D........................... ... 540

Editorial Notes and Comments—

Book a Necessity for Beginners..... 522
Crosses vs. Pure Italian Bees.................... 521
Marketing the Honey Crop........................ 521
National and Local Associations.................. 521

Miscellaneous News Items—

Bee-Keepers' Demonstrating Field-Meeting... 523
Gleanings Editor a Poultryman............ 523
Handling Honey Years Ago...................... 522
National Association.......c............... 523
Those Two 'Long Fellows' of Beedom......... 523

Canadian Beedom—

Beginner and Bees.............. 523
Dummies and Deep Top-Bars..................... 523
How to Buy Bees................................. 523
Postal Vigilance................................. 523
Tomfoolery About Bees......... 524

Our Sister Bee-Keepers—

Hive-Entrances in Winter and Spring.......... 524
Honey and Pollen from Blackberry... 524
Pollen-Gathering and Temperature............. 524
Queenless Colonies in Spring and Later........ 524
Wild Grape and Other Bloom.................... 524

Southern Beedom—

Bee-Keeping in Uvalde Co., Tex................. 525
"Full Blood" and Other Bee-Cranks............ 525
Introducing Queens with Tobacco-Smoke...... 525
Report on Sweet Clover......................... 525

Mr. Hasty's Afterthoughts—

Getting Things Down Fine....................... 525
"Keep All Colonies Strong" the Watchword.. 525
Not a Hard Bee-Puzzle.......................... 526
Our "Prime Swarm" a "Head Swarm" in England 525
Poppy and Hollyhock as Bee-Attracters....... 525
Some Queen-Rearing Comments................ 525
Water as a Swarming Discourager............. 526

Contributed Articles—

Best Hives for Wintering and Extracting 527
Cheshire (Frank R.) and Foul Brood............ 526
Chicago-Northwestern and National............ 526
Dewey Foundationer............................. 532
Mimicing Moths.................................. 532
Mints as Honey-Plants........................... 530
Queen-Rearing—Small Nucleus System......... 531
Retention of Heat in Brood-Nest............... 530
Ruches and Ruchers in Europe 528
Willows and Bees................................ 529

Convention Proceedings—

Control of Increase...................... 533
How Many Bees Shall a Man Keep?........... 539
National at Chicago............................. 533
What Have We to Hope for from the Non-Swarming Hive?........... 538

Dr. Miller's Question-Box—

Growing Catnip and Sweet Clover.............. 541
Making Honey-Vinegar................. 541
Salt and Sulphur for Foul Brood............... 541
Some Questions on Management................ 541
Swarming Questions............................ 541
T-Supers.... 541
When Do Bees Swarm?........ 541

Reports and Experiences

An Experience with Bees. 542
Heavy Honey-Flow...... 542
Killed by the Frost............................. 542
Peach-Bloom for Bees........................... 542
Season Disastrous to Honey-Flow.............. 542
Should Have a Full Honey-Flow................ 542
Working on White Clover............ 542

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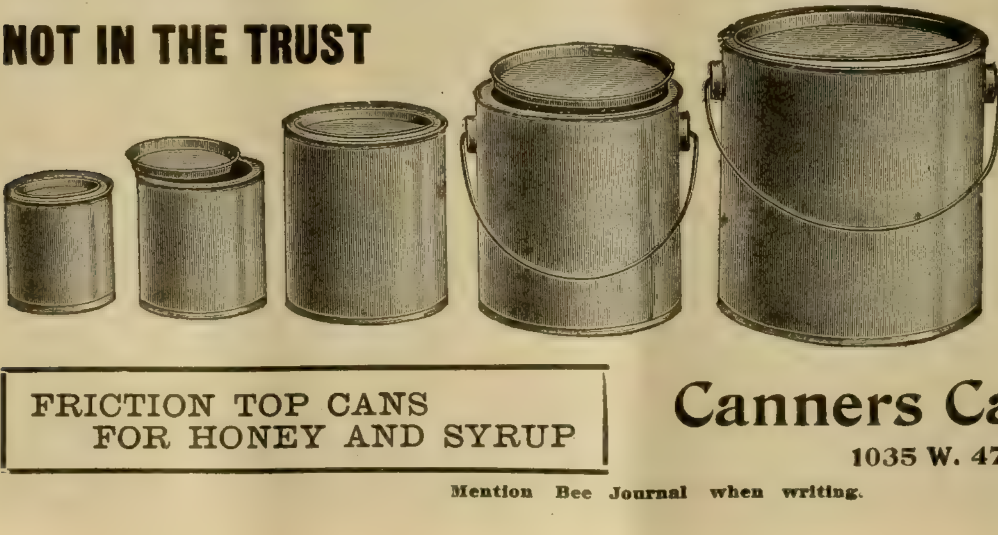

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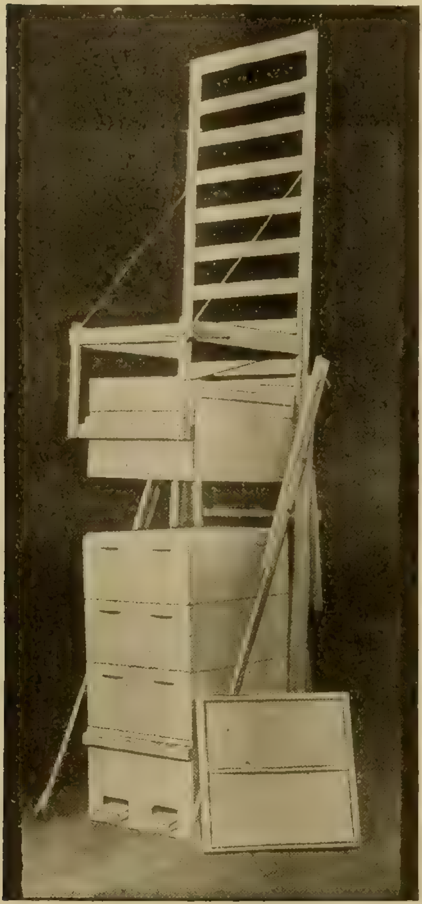

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The illustration shows one of the A. K. Ferris hives under process of manipulation. Every bee-keeper will be interested in reading about these hives arranged according to the Ferris' system for the Prevention of Swarming for Comb Honey Production.

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Among our other regular contributors are Mr. J. A. Green, Dr. C. C. Miller, E. W. Alexander, and many other bee-keepers of note.

No bee-keeper who will take time to look through one number of **Gleanings in Bee Culture** can satisfy himself that he does not need this "Journal of Profit."

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GERMAN BEE-BRUSH

Some months ago Mr. R. F. Holtermann called our attention to a bee-brush which he received from Germany, made of genuine bristle or horsehair. He had used one a whole season, washing it out often, and it appeared to be as good at the end of the season as at the beginning. He considered it so far ahead of anything he had ever seen or used that he wanted no other. We concluded if it was so good for him it must be equally good for others. We are now provided with a stock which we offer at 25 cents each; by mail, 30 cents. The bristles are black, and about 2 inches long, extending 8 inches on the handle. Made of white hair it would cost 5 cents more.

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AMERICAN WEEKLY BEE JOURNAL

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GEORGE W. YORK, Editor | CHICAGO, ILL., JUNE 21, 1906 | Vol. XLVI—No 25

An Independent Bee-Paper

THE AMERICAN BEE JOURNAL is absolutely an independent publication, and neither is it nor its editor connected in any way with any bee-supply business whatsoever. It stands entirely upon its merits as an educative force in the field of bee-keeping, and as a medium for legitimate advertisers in Apicultural or other lines. It is the oldest, and only weekly, journal of its kind in America. Its publishers believe that it deserves to be in the hands of every would-be progressive, successful bee-keeper in the land. It is in its 46th year, and to-day is acknowledged to be better in every way than at any time during its long and honorable history.

Editorial Notes and Comments

Marketing the Honey Crop

The honey crop of 1906 will soon be here, and it will need to be marketed.

Whether it will be sold in the producer's home market, or shipped away, will depend upon several things.

It is a good time *now* to talk about this honey-marketing question. It is a big question to many bee-keepers.

Suppose some of those who have had successful experiences in both the home and outside markets, just write out their methods for the good of others. We will be pleased to publish such articles. We can use a number of them if they are brief and to the point.

So, kindly send on what you have to say on the honey-selling subject, and we will publish it very soon—in good time to be of practical use this year.

An interchange of successful experiences in this matter can not help being a good thing for all.

If you do not wish your location published, lest some one might run in on you, what you write can be published with name and State of writer only.

Crosses vs. Pure Italian Bees

J. E. Crane, as he relates in Gleanings, had mixed blood in his hives, but found a distinct improvement upon getting a choice Italian queen and allowing her royal offspring to mate with his grade drones. He concluded that if this made so much improvement the improvement would be greater still if his bees were pure Italian. So he got a choice Italian queen from a different source, and secured young Italian queens purely mated. Mr. Crane says:

But, alas! they did not come up to my expectations, for not one of them was equal to some of those colonies whose queen had mated with my old grade drones. To say that I was disappointed is putting it very mildly.

Facts are stubborn things to butt up against. I have but little doubt that an inferior strain of pure Italian queens crossed with black or hybrid drones would give bees less productive than pure-bred bees from some better strain; but a cross between our best strains of pure Italian queens and black or grade drones, I am satisfied, will give larger yields of honey than it is possible to secure in any other way. I wish it were otherwise, for I like the pure bees much the best, as they are so much nicer to handle, and withal so handsome that it is a constant pleasure to work them.

My present practise is, so for as I can, to breed from the best pure queen I can find, and pay no attention further. My own yards and my neighbors' furnish enough black and grade drones to give vigor to my stock.

The National and Local Associations

We have received the following letter from Leo F. Hanegan, Manager of the St. Croix Valley Honey-Producers' Association, in Wisconsin:

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—Your article on page 461, about some local and State associations dropping the National, hits us exactly; but in our case we are prepared to show that our reasons for dropping the National were other than what you evidently anticipated.

In dropping the National we did not explain why we did it, nor will we explain to them or any one without good reasons, as we do not care for friction. The fact is, that we have given the National no small number of members it probably would never have enlisted were it not for our help, and yet, on the other hand, the National is a "good thing," and deserves the support of every bee-keeper in our land.

We had arranged to make our members also members of the Wisconsin State Association, but at the last annual meeting of the State Association some resolutions were passed which barred us from continuing that membership. We regretted this, as it is largely due to the encouragement and help of Wisconsin State Inspector N. E. France, of Platteville, that we are in existence, and we have a great deal of respect and good feeling for this gentleman, not only for what he has done for our Association, but for what he has done for Wisconsin bee-keepers.

We dropped the National, but not the State—the State dropped us, and so notified us.

In the case of this Association dropping the National, it was not a case of trying to "rule or ruin," but a business proposition which was influenced by no one but the Executive Committee of this Association, every man of which has the highest opinion of the officers and manager of the National Bee-Keepers' Association.

Trusting you will square us with the fraternity, inasmuch as we are being accused through your Journal, we are,

Yours respectfully,
ST. CROIX VALLEY HONEY-PRODUCERS' ASSOCIATION,
Leo F. Hanegan, *Manager.*

N. B.—Inasmuch as we have over 280 members, were we to use our influence against the National, we certainly could be harmful to it; but kindly say that we are not so using our influence. We have simply stopped sending memberships to the National, for reasons we have not published to date, and probably won't make known.

L. F. H.

We may say, in the first place, that we did not know until we received Mr. Hanegan's letter that his association had dropped the National. So, of course, we could not have had him or his association in mind when writing the editorial on page 461. We made no accusation against any particular association, as it will be clearly seen that we did not name any. The criticism contained in the editorial referred to can be applied only to such persons or associations as it may fit. If the coat does not fit, it is not necessary to put it on.

Mr. Hanegan says that the reasons for the St. Croix Valley Honey-Producers' Association dropping the National will probably not be known; also, that it was an action entirely on the part of the Executive Committee of that Association. Of course, if such action is satisfactory to all of the 280 members, it must be all right, for we believe in the membership of an association running the association, or delegating their authority. But we can not see from this just what the St. Croix Valley Honey-Producers' Association has gained in severing itself from the National. We can see this, however, that if every member of that association should join the National individually at $1.00 each, it would cost them about $140 more than necessary, because any local association can join the National in a body at 50 cents per member instead of $1.00.

We are glad to know that the St. Croix Valley Honey-Producers' Association is not using its influence against the National. We do not see why any local association should try to use its influence against the National, but, rather, that such influence should be used in its favor. We thoroughly believe that every local bee-keepers' association in this country should be affiliated with the National, and that one or more delegates from such affiliated associations should be sent to the annual meetings of the National. It seems to us that hardly in any other way can the National keep in proper touch with the interests of bee-keeping throughout the whole country.

The National Bee-Keepers' Association has done some splendid work for the bee-keeping industry during the past nearly 36 years of its existence; it can still do much good work, and we believe that under its present management it means to continue to do it. So far as we know, its officers and Board of Directors enjoy the confidence and support of practically all the bee-keepers in America. Of course, there may be some exceptions, as noted in the editorial on page 461, where a few, having become dissatisfied, endeavor to injure it, but this, it seems to us, can be but for a short time, if they have any influence whatever.

We are fully aware that no local association can be compelled to join the National in a body; in fact, we do not think that any one would think of compelling such uniting. It seems to us it ought to be considered a privilege by the local association to become members of the National in a body at 50 cents per member. We believe every local association owes it to the National to affiliate with it in that manner. And while it is economy for the local association to do this, on account of the larger membership that would be gained in this way by the National, it results in larger financial resources, and also gives the National the added influence of numbers in membership, which count a great deal in many ways. The German Central Union of bee-keepers has nearly 40,000 members. America has not yet been able to get 3000 bee-keepers into one organization. We believe the last United States census shows that there are something like 700,000 bee-keepers in this country. We do not believe our National Bee-Keepers' Association can possibly ever be as large through only individual membership as it would be by local associations joining in bodies at the lower rate of membership fee.

This writer is not an officer in the National, but simply one in the ranks, and desires to see it grow in numbers and power as the years pass on. It now has the largest amount of money in its treasury in all its existence, and we believe it is in a position to do great things for all the bee-keepers of this continent. In order to do this, however, it will need the hearty support of all other organizations of bee-keepers in America.

We wish to thank Mr. Hanegan for writing, even if he was wrong in thinking that the association of which he is the able manager was referred to in the editorial in question. Possibly some good may result from what has been published so far, and, if so, it will be all right. The American Bee Journal has stood by the National organization of bee-keepers in this country longer than has any other bee-publication, and it expects to continue such support so long as it can consistently do so. Just now we believe that with the exception of a few minor points the National is in a position to do the best work of its life for the bee-keepers of this country, and it has the opportunity. The question is, Will it embrace the opportunity, and prove itself all that it can be, not only to its membership but to the whole bee-keeping industry of this continent?

A Book a Necessity for Beginners

Beginners sometimes expect to get all the information they need through the question department of this Journal, and are not well pleased when told they ought not to utilize that department until after having made a thorough study of some good book of instruction on bee-keeping. But no sounder advice could be given for their own profit. Here is what the British Bee Journal says about it:

> The first "instructions" we invariably give to beginners with bees is to procure a reliable "guide-book" on the subject. Without such help it is like groping in the dark. We are also careful to impress on beginners that it is impossible to teach the art of bee-keeping in our "Query and Reply" column. All we can do is to give advice in cases where unforeseen difficulties arise which are beyond the skill of novices; but there are many things that can not be done by rule of thumb, nor is it possible to frame instructions that will meet all cases, seeing that "bees do nothing invariably."

So there is always plenty of room for questions after the most thorough study of the book, and nothing here said is intended to discourage the sending in of such questions.

Miscellaneous News-Items

The National Convention Report is begun on page 533. We expect to continue it in smaller installments from week to week. This will insure a more careful reading, we think, as a little of it can be read weekly, while if all were given at one time perhaps none of it would be read. It will certainly be profitable to go over all of it very carefully, as there are many good things in it.

* * *

J. T. Calvert, Treasurer and Business Manager of the A. I. Root Co., dropped in to see us last week when passing through Chicago. He reported a good business in bee-supplies east of the Mississippi, and especially in the eastern part of the country. West of the Mississippi the honey season having been poor last season, and also there being a greater loss of bees in that territory, there has not been so great a demand for bee-supplies this season.

* * *

Those "Two 'Long Fellows' of Beedom," on the first page, are getting to be pretty well known in beedom, or at least among the readers of the American Bee Journal, and that includes the best part of the bee-keepers who read bee-literature. In them is splendidly represented the bee-keepers of the "North" and the "South," for Mr. Pettit (6 feet 1 inch) is the editor of "Canadian Beedom," and Mr. Scholl (6 feet 3 inches) is editor of "Southern Beedom."

They are two young "boys" that appear to be quite able to look out for themselves—and several others besides. But they may have to "stoop to conquer," should they ever decide to attempt to persuade some fair young damsels to share their "lofty" lives with them. They certainly are two of about as "high livers" as can be found amongst bee-keepers. Most of us have to "look up to them" whether we want to do so or not.

* * *

Handling Honey Years Ago.—Dr. F. D. Clum, of Cheviot, N. Y., sends us the following on the honey commission business many years ago:

> When I was 16 years of age, I was clerk and book-keeper for Daniel W. Quinby, a near relative of Moses Quinby. At one time he controlled the selling price of honey in New York City. After awhile, when Mr. Quinby became advanced in years, a certain wholesale grocer went to his largest shippers and offered them a cent or two in cash above the probable price offered by D. W. Quinby, and they ruined his honey-business.
>
> D. W. Quinby was a very honest man, of Quaker descent, and I,

as his old-time clerk, will vouch for the fact that he always returned to the shippers the full value for their honey.

It hurt the old man very much to think that his old-time patrons sold their honey for a cent or two above the market price to a wealthy wholesale grocer, for, said Mr. Quinby, "They will certainly lose in the end."

Mr. D. W. Quinby died soon afterward, and I, his clerk, studied medicine and became a physician. Since then I traveled six times around the world. I am now located on the bank of the Hudson, retired from business, and keeping bees. F. D. CLUM, M D.

We think Dr. Clum could give something very interesting about the methods of handling honey in the olden time. It is always well to know past experiences, as then whatever progress and development there have been during the intervening years can be traced, and often valuable lessons learned.

* * *

Gleanings Editor a Poultryman.—Editor E. R. Root is combining poultry-raising with bee-keeping. In an incubator supervised by him, he says he "got 47 chicks out of a possible 130," and last accounts 6 of the 47 were still alive. No doubt it requires a very hardy strain of chickens to withstand his plan of treatment—possibly "hybrids."

* * *

The American Food Journal, published by H. B. Meyers & Co., at 334 Dearborn St., Chicago, Ills., is a 34-page monthly magazine devoted to the interests of pure food. Subscription price, $1.00 a year; 10 cents per copy. In the May issue, Dr. E. N. Eaton, late analyst of the Illinois Food Commission, gives "Household Tests for Food Stuffs," among them being this:

JELLIES, JAMS, HONEY, PRESERVES AND SYRUPS.

Glucose may be tested for in all these products by a very simple test.

In a glass vessel as narrow as possible, place the jelly, honey, etc., and if not real thin add as much again warm water and dissolve. Then add six times the volume of strong alcohol. A white turbidity is due to dextrin and indicates commercial glucose.

Bright colored jellies, jams and preserves indicate artificial color.

* * *

The National Association.—The Board of Directors, on April 11, 1906, voted "No" on this question: "Should the National Bee-Keepers' Association assist a not-paid-up member in defending a suit in a matter arising while he was not a member?"

General Manager N. E. France, of Platteville, Wis., is now offering $5.00 as a premium to any member of the National who will, by Aug. 1, 1906, send him the best design for a honey-label for the use of the National's membership. Here is a chance for some one to earn $5.00, and also help a good cause. Notice that only members can compete in this. If you want to enter the race, and you are not a member, send your $1.00 membership dues for a year to Mr. France at once.

BEES AS A NUISANCE.—Mr. France says that nearly all such complaints arise from the owner of the bees not being as friendly and generous to his neighbors as he should be. Several such cases have come up lately, and he asks bee-keepers so to place their hives, and also carefully handle the bees, as not to be a cause of complaint. The Association is not expected to settle neighbors' quarrels.

* * *

A Bee-Keepers' Demonstrating Field-Meeting is to be held at Jenkintown, Pa., Tuesday, June 26, at the exhibition apiary of the A. I. Root Co. It is located in a suburb about 10 miles from the center of Philadelphia, at the home of Wm. A. Selser. This is the second annual bee-keepers' field day conducted by the Root Company at the same place. Messrs. A. I. and E. R. Root, and perhaps one or two others from the Medina office, expect to be present, and hope to meet their many bee-keeping friends. The program of the day begins at 9:30 a.m. and closes at 9 p.m. Almost every 15 minutes some special demonstration in bee-keeping takes place. Among those who are expected to "perform" are, Prof. H. A. Surface, G. M. Doolittle, W. L. Coggshall, A. I. Root, E. W. Alexander, W. K. Morrison, N. D. West, Dr. E. F. Bigelow, Grant Stanley, Dr. E. F. Phillips, and Rev. D. E. Lyon. Various operations of the apiary will be shown to the wondering populace. It promises to be one of the greatest events of the kind ever known in beedom. Of course, everybody is invited to attend. Full particulars can be had by addressing Wm. A. Selser, 10 Vine Street, Philadelphia, Pa., who is the local representative of the A. I. Root Co.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Dummies and Deep Top-Bars

Glad to see Dr. Miller is so reasonable—he almost sees as I do (page 461). Why do I dislike a dummy? Simply because I think I get along just as well without it, and do not have to handle the extra piece, nor have the extra width of hive. Further, I do wish I could persuade Dr. Miller and others (from entirely unselfish motives) to give staple spacers a fair trial. *No other spacer I know of has so few objections and so many advantages.*

Now as to wax built between top-bars. It is one of the rules of logic, as I learned it at the University, that varying one of the conditions of the proposition and leaving all others unchanged varies the result. That one condition must have a very direct causal relation to the change in result. Dr. Miller has stated the conditions with the one change so distinctly that those who run may read the natural conclusion. Here they are:

1. Accurate spacing between top-bars, top-bars ⅝-inch deep—no wax between top-bars.
2. Accurate spacing between top-bars, *top-bars ⅞-inch deep*—too much wax between top-bars.

Is it not obvious that Mr. S. T. Pettit, who has contended for years that a ⅞-inch top-bar causes wax to be built between top-bars, must be right?

And now "such very true combs" *are* in use by the thousand in the "Marble Apiaries." But do not forget the importance of a narrow bottom-bar, only ¾-inch wide, making a wedge-shaped comb.

How to Buy Bees

The Farming World has good advice on the above subject. It warns prospective buyers against foul brood and old drone-combs. It recommends stimulative feeding with syrup, and large hives containing 12 frames of standard size.

Postal Vigilance

Uncle Sam is very careful of the mail-matter submitted to him for transportation. A letter properly and plainly addressed was by some means sent to the wrong office, then returned to the writer. The latter forwarded the envelop to the Post-Office Department at Washington for explanations. The matter was taken up, thoroughly ferreted out, and the correspondence, consisting of about 18 letters in all, returned to the writer of the letter. This shows that even an unregistered letter going astray will be hunted up with the greatest care, and should tend to strengthen the confidence of the corresponding public in the Post-Office Department.

The Beginner and Bees

Hives in fruit-bloom should be chock-full of bees right into the corners. The beginner wants quiet bees if he can get them. He can learn their disposition pretty well by lifting their cover off quietly. If they boil out and sting him a few times they are probably cross. If they pay little or no attention, but crawl around quietly on the frames, they are all right. Then he should select a hive having straight combs, if he is buying bees on combs which have not been built from foundation. A look in the top will generally show whether the combs are built straight—each comb attached to only one frame—or whether they are built "criss-cross" or cornerwise of the hive, and each comb attached to two or more frames, in which latter case it will be impossible to handle the bees without first transferring them.

But about the worst snag a beginner can run up against is a queenless colony. If there are many bees standing around on the alighting-board, and apparently doing nothing in particular but killing time; and if the bees in the hive are cross and irritable, it would be well for the beginner to give that hive the go-by, and select one where the bees are going in and out with such a rush that they have no time to notice him or anything else; and where any bee that shows an inclination to loaf on the front doorstep gets knocked off his feet by the "field gang;" and where the loads of pollen going in are so big that he wonders how in the world the bees manage to make them stick on, anyway. A colony like that is worth the money you pay for it.—E. G. H., in Farmers' Advocate.

Tomfoolery About Bees

What tomfoolery is often published in the name of science appears strikingly from the following clipped from the Mail and Empire:

> BEES OBEY ORDERS.
>
> In a communication to the Academy of Science, the celebrated naturalist, M. Bonnier, makes some interesting observations on the habits of bees. In the afternoon when they are collecting water from the leaves of aquatic plants, he says they will not touch honey offered to them on these leaves, or on floats of various colors. But if honey is offered to them in the morning in a similar way, it is carried off. He explains this as arising from the strictness with which they obey orders. If they are sent out for water they will not stay to gather honey.

Our
Bee-Keeping
Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Honey and Pollen from Blackberry

From the large number of bees working on blackberry blossoms it must be that much nectar is secured from them. For only a small proportion of the bees are found laden with pollen. A careless observer might easily take the pollen for that gathered from white clover, as it has much the same appearance, only lighter in color.

Queenless Colonies in Spring and Later

Early in the spring it is not worth while to coax along a queenless colony; better break it up, distributing the combs and bees where they will do most good. But later on, when queens are in the height of laying, it is not a hard thing to keep a queenless colony going, and even building up quite as rapidly as if it had a queen. No use to let a hiveful of queenless bees remain idle when they can just as well be rearing a lot of brood. The same applies to a colony with a young queen which is not yet laying.

Go to a strong colony, and draw from it 2 frames of brood, by preference those not the most mature, but the frames well filled in place of the frames taken away. Put in this strong colony 2 empty combs, and let them be placed in the center. The 2 frames of brood are, of course, to be given to the queenless colony. A week later you will find the 2 combs in the strong colony filled with eggs and young larvæ. Take them out, putting in their place 2 other empty combs, and give the eggs and brood to your queenless colony. You will see that these frames of eggs and very young brood have as yet cost the bees very little. The greater part of the feeding is done by the queenless bees. You can keep this going just as long as there is room in the queenless colony for more brood, and it will thus be kept strong, and you will have just so many more bees than you would have had if you had given no brood to the queenless colony.

Wild Grape and Other Bloom

Wild grapes are quite plentiful in this locality, and are of considerable importance to the bees. This 25th of May the bees are very busy on them, getting both honey and pollen, the latter being of a rather light greenish yellow. Apples have gone out of bloom, a single clover bloom may be found here and there, but it will be 10 days or so before clover bloom will count for much, so the grape-bloom does an important service by helping to keep brood-rearing a-going. It's a delight to the eye, on driving along the country roads, to see rod after rod of the wire fences festooned with the wild grape, and when in bloom the delicate but delightfully penetrating perfume makes one think of the odors of "Araby the blest."

Pollen-Gathering and Temperature

May 28 the mercury stood 37 above zero at 6 a.m. When it got up to 47 a stray bee here and there could be seen flying at some of the hives. At 50 degrees, with a raw north wind, all colonies were astir, but none of the returning bees carried pollen. At 52 degrees (8:40 a.m.), a very few bees were bringing small loads of pollen. At 58 degrees (11 a.m.), full loads of pollen were going in, but the proportion of pollen-carriers was not up to the usual mark, and not more than half the fielders seemed at work. Half an hour later a full proportion were carrying pollen, dropping off again at noon. But that day didn't at any time become warmer than 60 degrees, and a full force of fielders were not at work till 3 days later, when the weather again became reasonable.

Hive-Entrances in Winter and Spring

In the spring our bees have an entrance only an inch square. About May 24, after some very warm days, it seemed too bad to close them up so tight, and a few were opened up, especially of the stronger colonies to which a second story had been given. Then came a cold spell when for a whole day (May 27) the mercury never got higher than 44 degrees above zero, and we were glad we hadn't opened up any more. In no case had the bees been hanging out, and it is doubtful that they needed more than the one square inch for an entrance. True, they began, in some cases where second stories had not yet been given, to build combs down below the bottom-bars in the 2-inch space, but the waste of that comb (which was of course cut away, and a second story given) was not so bad as would have been the waste of heat with a big entrance.

It is very important to have all cracks closed up tight early in the season, so as to favor brood-rearing, but what with old covers and old hives it is not always as easy as one would wish to keep all snug. It is easy, however, to keep a small entrance, and a few cracks at the top will do no harm if the entrance is small enough, the only requirement being that the entrance be large enough for the passage of the bees. A hole an inch square allows free passage for a pretty strong colony.

Some one may object that a colony needs a larger entrance than an inch square in winter, thinking that of course they need a larger entrance when it gets warmer in the spring. But in winter they're so nearly dormant that they do nothing to change the air, and in spring they'll stir up and change the air whenever it is needed.

Handy Tool-Holder.—We find we are short of the part of this Tool-Holder which has on it the cogs or ratchet by which the blade is raised or lowered when grinding. We need to have some castings made of that part. If any one of our readers who has one of these Tool-Holders will kindly write us, so we can learn who it is, we will consider it a very great favor. Address the office of the American Bee Journal.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

A Report on Sweet Clover

Friend Scholl:—You ask for us to give you our experience with sweet clover. I haven't had much, but I will tell what I know.

I sowed 3 pounds in September, 1903. In the summer of 1904 it grew 6 feet high, what the hogs left of it. It was sowed on sandy land with clay foundation. It had white blooms on it, and bees worked on it strong; but there was not enough of it to tell about the amount of honey it gave.

Well, Mr Scholl, I have not told you very much, but I hope it will help you a little. T. R. Greener.

Grapevine, Tex.

"Full-Blood" and Other Bee-Cranks

The following clipping hails from a Texas agricultural paper that has a "bee-column" in it:

> I am somewhat of a bee-crank, but not a full-blood one. I have 14 hives. I have the Patton gum-hive. I have hived lots of bees, but have never been able to find a queen through hiving yet. Probably you will say I don't know one when I see it, but I think I do, for I found one once in an old hive after the bees had all died out.
>
> Some one please tell me how to find a queen in hiving them. I guess you full-blood bee-cranks will think it funny, but I will think it more the funnier if I can find one alive.

It was "most the funniest" though when the replies from about a dozen of the "full-blood bee-cranks" appeared in the next issue with a dozen different ways telling how the questioner could have the fun of finding a queen alive.

Introducing Queens With Tobacco Smoke

A few mornings since I found a very small swarm clinging to the leaves of a grape-fruit tree in my home yard, which evidently had settled there the previous evening, probably having been driven out of some tree in the woods by ants—my colonies all showing up as usual.

I hived the swarm, putting 3 combs of honey, bees, brood and eggs; in the absence of queen-introducing-cage conveniences I smoked them, thinking that by giving them all a smoky odor the queen might, under the circumstances, be accepted; when, too late, the hive was opened the ball of bees was disintegrating, and the dead queen being dragged toward the entrance, some bees still attempting to sting her.

If I had not used smoke would it have been any more likely to have been successful? or what would have been the best method of procedure? W. F. McCready.

It seems that perhaps the swarm was not queenless at all, hence having 2 queens one of them was destroyed. With the few cases that I have practised in using tobacco smoke to introduce queens, I have been successful; but this method was never used very extensively by me.

Bee-Keeping in Uvalde Co., Tex.

An extract from an article on bees in Uvalde Co., Tex., by Mr. J. K. Hill, one of the leading bee-keepers of that section, and published in Dallas (Texas) Semi-Weekly News, will give one an idea of the extent of the bee-keeping industry in this single county of Southwest Texas:

> We now have about 17,500 colonies of bees in Uvalde county. Eight years ago there were only about 6000 colonies. This shows how the bee-industry has grown in recent years. The value of the bees and appurtenances for the management of same are worth about $137,500. What is termed a full honey crop in this country is 120 pounds bulk comb honey per colony. Should every colony in this country yield this amount it would give us 2,100,000 pounds of honey. This sold at the average price of 10 cents per pound would bring to the bee-keepers $210,000, or about 150 percent on the investment.
>
> Do not think that I mean to say that this amount is made by us bee-keepers, for every man in the business does not understand the proper management for profit. The bee-business is a scientific study; in fact, as fine a study as law or any other scientific study, and when properly managed under just ordinary conditions, should yield 120 pounds per colony.
>
> I harvested 183 pounds of comb honey one year, 222½ pounds another, 146 pounds another, and 202 pounds average per colony. The latter crop was harvested by hired help entirely, and was not satisfactory under favorable conditions that year, as that year was the best yield in the country's history. There was produced about 1,500,000 pounds.
>
> One of the chief things in securing the best results from bees is in the control of swarming. When this is mastered the bee-keeper is on the road to success. Some time in the future I will attempt to explain how to manage bees so as to get the best results.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Some Queen-Rearing Comments

Why, Mr. Alley, those Italian fellows were too honest to *profit* any by your book—after having stolen it entire with the sole exception of your name!

Instructive to see that Mr. Alley himself states that his Adels are of Carniolan origin and not of Italian origin.

Instead of saying that all other yellow bees came down from Cyprians and Holy Lands, I would amend by saying that the primitive yellow bee is not now to be found, but that the Cyprians and Holy Lands represent it more faithfully than other yellow bees do—all being descended from it. Page 404.

"Keep Colonies Strong" the Watchword

Base and foundation of successful bee-keeping to keep colonies strong—and this done only by having room enough in the brood-chamber. These are indeed pretty forcible words from C. P. Dadant. Page 405.

Our "Prime Swarm" a "Head Swarm" in England

And this is hardly an admirable or praiseworthy circumstance. When we get something new of course a new word appears as the name for it. Presto, our English speech-partners rather take pains to call it by a different name. When they get something new I fear we are similarly guilty. So that which is an "elevator" here is a "lift" there; and that which is a railroad "switch" here is a railroad "shunt" there—and, behold, on page 406, a "prime swarm" is a "head swarm" (Laugh all ye little children with nothing else to do but laugh), to the puzzlement of Yankee readers. If this sort of thing keeps up, and the world stands thousands of years enough, the result will be two different languages. Mad! Hope the British language then will be to the American about what the Welsh is to the English now.

Getting Things Down Fine

Lots of wisdom in the Stachelhausen article on pages 406 and 407; but it strikes me that he rolls his gold-leaf thinner than the metal will bear. If the proper expert should go over it with sharp spectacles he would see lots of holes, may be.

Poppy and Hollyhock as Bee-Attracters

Nice for those who are intense lovers of both flowers and bees to select for their most-constantly-in-sight beds the flowers that attract bees and make a fine floral display, too. How came Sister Wilson to omit the poppy from the list? From her Hamlet she has left Hamlet out. I think there is no extra-nice flower so sure to draw lots of bees as the poppy. It has been suspected that something else than either pollen or honey makes the bees so wild over poppies—but that doesn't signify when the object is simply to get the bees into our floral view. The hollyhock also draws bees well, at least it often does. The old single kinds draw rather better than the grand Chaters which present-day floriculture would want. And great sport it was for the children to capture bees without danger by closing a hollyhock over them. Even if it was a bumble-bee, all the same. Alas, my prime favorite among the flowers does not draw bees at all—so I can't propose that for the list. Page 408.

Water as a Swarming Discourager

Dr. Miller is quite right that it is hard to stop the swarming-act, once begun. Yet I can give a method which will succeed if you can be on hand soon enough—say when not more than a quarter of the bees are in the air. Squirt a powerful and undivided stream of water into the entrance. Do it *relentlessly*, with nozzle pressed to the entrance, till most of those inside are wet. It doesn't seem to do much harm; but seeing (as he says) they'll be at it again next day, the occasions are few when it is worth while. To set a big wire-cloth catcher right over the hive is rather better practise—but that is not what was asked for, and it has its own drawbacks, also. Page 409.

Not a Hard Bee-Puzzle

The puzzle propounded by H. D. Black, on page 410, is not a hard one, I think. In a location where bees can get a surplus only one year in 10, one should not expect them to have so much brood at one time as in a good location. Very likely the pollen-resources of the place may be still poorer than the honey-resources.

Contributed Articles

Chicago-Northwestern and National

BY DR. G. BOHRER.

THE Chicago-Northwestern and National Bee-Keepers' Conventions, held in Chicago, on Dec. 19, 20, and 21, 1905, probably constituted as able a body of bee-keepers as ever assembled in this or any other country. I will name a few of them:

M. M. Baldridge, of Illinois, a veteran bee-keeper whom I met at the first convention of bee-keepers of a national character ever organized in North America, which was during the winter of 1871, at Indianapolis, Ind. I cannot recall any others who were there that are now living. It was called "The North American Convention of Bee-Keepers," in order that it might embrace our cousin bee-keepers from Canada, as there were one or two present. Among them was Rev. William Fletcher Clarke, who was something of a writer, but probably not a man of extensive practical experience in apiculture.

At Chicago there were several Canadian bee-keepers present who are intensely practical. I say "intensely," because they demonstrated by their mode of discussion of any subject, that they have but little use for any thought not backed by experience.

Then, there was present that veteran, C. P. Dadant, who was one of the Rev. L. L. Langstroth's greatest friends and admirers, and who, with his father, revised Langstroth's book on bee-keeping, and who in practice has blended the ideas of both Langstroth and Quinby by using the length of frame used by the former and the depth used by the latter, which is about 2¼ inches deeper than the Langstroth frame. That Mr. Dadant is a most successful bee-keeper no one will question who is familiar with him as a business man.

Besides Mr. Dadant there was another stalwart bee-keeper, as well as the author of "Forty Years Among the Bees,"—Dr. C. C. Miller—and his assistant in apiculture, that amiable, distinguished, and exemplary lady, Miss Emma M. Wilson, who edits the Sisters' department of the American Bee Journal.

N. E. France, our untiring general manager, was there, who has been the medium through which many differences have been adjusted, and foul brood diagnosed and exterminated.

There was also present Mr. Whitney, of Wisconsin, another thoroughly practical man and an enthusiast, of 77 summers.

Others present were: Mr. Hershiser, of New York; Mr. Hilton and Mr. Hutchinson, of Michigan; the latter being not only an author, but the editor of a bee-paper. Other editors of extensively patronized bee-papers, who were in attendance at this convention, were Ernest R. Root, W. H. Putnam, and George W. York. Besides these there were nearly 200 ladies and gentlemen of extensive practical experience in bee-keeping.

The discussions of this gathering of distinguished bee-keepers are now on record, and I hope that the same will, by installments at least, be given to the bee-keeping public.

On account of a shortage of time I did not have the pleasure of being present at more than two sessions of the National, consequently I have little comment to offer in regard to its proceedings. At the Chicago-Northwestern session that I attended, the question as to which has the brighter future, comb or extracted honey, was considered. I, being called upon, stated that with a strong National pure-food law, extracted honey would be far the greater product, as people will in time learn that honey free from wax (which is wholly indigestible), is not only the most wholesome form in which to use it for food, but that it is also the cheapest to the consumer, as the producer can put it on the market cheaper than he can afford to place comb honey there.

The people are learning very rapidly that such a thing as artificial comb, filled with artificial honey, sealed by human hands, is not accomplished. They are also learning that the producer of comb honey, as a rule, sells his honey by weight, and that the retail dealer sells it very largely by the piece, so that the consumer of section-honey pays the same price for a light-weight section as he does for a full-weight section, or one that weighs a pound. This fact is doing, in my opinion, a vast amount of harm to the section-comb honey market; but I hope to be able to discuss this and other questions that were before the conventions, in the near future.

Lyons, Kansas.

Frank R. Cheshire on Foul Brood

BY REV. ROBERT B. M'CAIN.

THE name at the head of this article is one to conjure by. The world has not known a higher authority in the realm of scientific bee-culture than Frank R. Cheshire. It is a great wonder that his name does not more often appear in the discussion of the "deep things" of our craft. Of his two volumes which contain the results of his monumental work on "Bees and Bee-Keeping," the first, which is devoted to the scientific aspect of the subject, is undoubtedly the most thorough, exhaustive and exact work on the subject extant. The second volume, which treats of practical bee-keeping, is larger in size, but is in the main out of date owing to the great improvement that has been made in hives, equipment and the practical management of bees in recent years. Chapter 12 of this second volume is an exception to this statement. It is entitled "Diseases and Enemies," and contains the most comprehensive and thorough discussion of the subject of foul brood, from the scientific point of view, to be found in literature.

In justification of the review of this subject at this time, a quotation from the closing paragraph of the chapter seems sufficient. Mr. Cheshire says:

"Our modern hives keep the old pests (such as wasps, spiders, mice, etc.) pretty much at bay, but infectious disorders are on the increase, and *are also appearing in new forms*. It is no safeguard to shut one's eyes to the danger. Safety rather lies in a knowledge of the magnitude of any evil, and respecting this one, slackness is all but criminal."

The greater part of the chapter under consideration is given to the discussion of the disease which is commonly called "foul brood." He discusses the disease under three divisions: 1. "The symptoms and the nature of the disease. 2. The means of its propagation. 3. The method of its cure."

In regard to the symptoms of the disease he gives those tests which are used throughout the bee-keeping world, viz., the sunken cappings of the brood, the coffee-colored larvæ, the characteristic glue-pot odor, and the viscous nature of the contents of the diseased cells. It is in the discussion of the nature of the disease that he displays his masterly power of investigation and presents some facts which are not generally known.

After proving that *Bacillus alvei* is the germ which causes the disease, he proceeds to show how these minute microscopic organisms multiply in almost inconceivable numbers. His investigations led him to the conclusion that the name "foul brood" is misapplied, since the germ does not confine its operations to brood alone, but attacks the mature bees of the colony. It is doubtless true that the majority of the bee-keepers of the present time think of this disease as affecting the brood only, and nine-tenths of the supposed remedies of the disease are based on that theory.

Cheshire found that "foul brood" is a *disease of the blood;* that queens, workers, and drones are affected by it, and that they die from the effects of it. Moreover, he proved that the ovaries of the queen and the spermatozoa of the drones were subject to the ravages of this disease, and that eggs, either before or at the time of their deposition in cells, could be, and were, objects of attack of *Bacillus alvei*. This statement will help many to understand the rapid dwindling of colonies that seemed to be very slightly affected with the disease so far as the brood was concerned.

Having established, by investigation, the fact that *Bacillus alvei* produced a "chronic disease" in full-grown bees, including the queen, he at once concluded that it was possible and even likely that the disease would be found in the ovarian track and in the eggs of the queen. It is commonly known that foul brood in some cases appears to be particularly destructive amongst the smaller larvæ, and Cheshire judged that in these cases the eggs contained the germ of the disease at the time they were laid.

He explained to a fellow bee-keeper what would be the probable peculiarities of the disease in the early stages of the brood, and later obtained from him a queen whose brood developed the disease soon after hatching from the egg. She was alive when she came to his hand, but he at once began to dissect her, finding her ovaries abnormally yellow, and very soft. Detaching the ovarian tube he counted 5 bacilli "swimming along with a lazy sort of progression." Having taken out "a half-developed egg, and crushing it flat, 9 bacilli were quickly counted."

It must be remembered that the bee's egg is, to the size of a bacillus, enormous. "Its length of 1-14 inch, and diameter of 1-70 inch, would enable it to accommodate 100,000,000 spores of this organism, which stands to the egg itself as a single drop to 1,500 gallons."

It certainly does not diminish the terrors of this dread disease when we are made to understand that in the act of mating the queen received the germ of the disease into the vulva because the drone himself was affected. Further than this, it was Cheshire's belief that the spermatozoa of the drones may be so devitalized by foul-brood germs that when they enter into the eggs to differentiate the sex their office is only partially performed.

Turning from the nature of the disease to the consideration of the means of propagating it, we have some ideas that are not altogether in harmony with current thought. In nearly all of present-day discussion it is confidently asserted that honey is the seat of the contagion, and that bees carry the disease into their hive by robbing. Cheshire says, "While I have searched most carefully in honey in contiguity with cells holding dead larvæ, have examined colonies dying out with rottenness, inspected extracted honey from terribly diseased colonies, and yet in no instance have I found an active bacillus, and never have been able to be sure of discovering one in the spore condition. . . . I have now discovered that it is *impossible* for bacilli to multiply in honey, because they cannot grow in a fluid having an acid reaction."

Such minute bodies as bacilli, 1,000,000,000 of which may be contained in the body of a dead larva, must occur in honey as an occasional contamination, but the idea that they grow in honey or that honey is the usual means of their introduction into healthy colonies is, according to Cheshire, contrary to all evidence.

If an acceptance of these ideas would lead to the abandonment of some current notions about foul brood, it would by no means lessen vigilance and care in handling the disease. For while Cheshire's investigations led him to place little importance on honey as the means of propagating foul brood, he emphasized the fact that the disease is exceedingly infectious, and that the agencies which are constantly engaged in its dissemination are all too numerous. Chief among these agencies are the bees themselves which, owing to the feathery nature of the hairs of their bodies, gather and carry large numbers of the germs with them into their colonies. Within the diseased colony the nurse-bees are constantly engaged in carrying the disease from the sick to the healthy larvæ. It is likely, also, that the full-grown bees of the colony are contracting the disease through air-tubes and at the segments of their abdomens.

Among the agencies for the spreading of the disease must be named the bee-keeper himself. The germs of foul brood are so small that ordinary particles of dust are huge in comparison to them. The bee-keeper's hands, made adhesive by propolis, carry the spores or bacilli, and so may transfer them, even hours later, to healthy colonies.

This is a point worthy of the attention not only of those who have the disease among their colonies, but also those whose business it is to inspect bees. For while they may visit an apiary with worthy motives and with legal authority, they may nevertheless become the means of propagating that which it is their purpose to eradicate.

As a precaution against infection, in addition to the utmost care, which should always be exercised, it is advised that a solution of corrosive sublimate, ⅛ ounce to one gallon of water, be used on hands and tools. Great care should be taken not to let the clothing of the operator come in contact with the disease.

In concluding this review it will be interesting to note that the cure in which Mr. Cheshire places greatest confidence, is almost identically the same as some which are being exploited in certain quarters as new discoveries. He counsels the destruction of infected brood and comb, if the case is bad, but advises the preservation of the hives and frames if the operator will be careful to disinfect them. His treatment is given in his own words:

"If the bees are worth saving, make a swarm of them into a skep, and transfer 48 hours later into a frame hive. If there be much brood, and the case not a very bad one, and the robbing season not at hand, unqueen, cutting out all royal cells 11 days later, and giving from a healthy colony a royal cell just sealed. When the queen hatches—by which time nearly all the worker-brood will also have left their cells—make a swarm of them into a skep, and transfer, on the second day, into a frame hive. The queen will, in 7 or 8 days, begin to lay and probably all will go well."

This is but an imperfect outline of Cheshire's masterly discussion of this subject. To be appreciated the original must be studied in its entirety. The writer hopes that the reading of this outline will inspire some to take up the entire work, especially the first volume, and give it careful examination. Certainly we can not inquire too carefully into the nature of these little toilers which work so faithfully for us. The more we know of them and of the things that affect them either for good or for ill, the better will we be prepared to handle them for their welfare and for our own profit.

Yorkville, Ill.

Best Hives for Wintering and Extracting

BY W. W. M'NEAL.

THIS is beautiful spring weather. The air is laden with the sweet perfume of the apple and cherry blossoms, and the bees are having a fine time. I had not seen the apiary for 6 months, and the eagerness with which I sought it upon my return home a few days ago can well be imagined, for the hum of the bees is one of the delights of my boyhood days, that grows more enchanting as the years hasten by. My enthusiasm fairly bubbled over as I noted with what splendid success I had met in wintering each and every colony.

A good business queen, in a good, strong colony, with plenty of well-ripened stores, is the pivot upon which success must be turned in solving the wintering problem. These are cheaper than packing boxes, and ever so much more encouraging to look upon; and it's Nature's way.

To show the readers of the American Bee Journal how little I have need of winter-cases, I will describe briefly the hive I am using. Some bee-keepers may say I am not up to date when I state that my hive is simply a modified Langstroth. But I defy any one to produce honey more cheaply in the so-called "improved" hives.

I made the hive a little shorter and some deeper. The brood-frames are of the standard Hoffman style. The super contains 9 extracting combs of standard depth, 9⅛ inches. So does the brood-chamber, excepting that these frames are 11 inches deep, outside measure. The super is covered first with a heavy piece of enamel cloth, then a ⅝-inch board cover cleated at both ends to prevent warping; and then the very important, if not almost indispensable, telescopic gable cover. It is to this feature of the hive, together with the ⅞-inch deep entrance, and 5-inch extension of a portico, that I wish to speak more particularly than to the number or depth of brood-frames.

I am firmly of the belief that bee-keepers have made a mistake in discarding the deep, telescope gable cover. I have never known a cover of that kind to be blown off the hive by the wind; and during the storms of winter and the scorching heat of summer it affords the very best protection to the bees at the least possible expense. For winter use it is supported by the portico cover, and a couple of cleats nailed to the hive-body about 1 inch from the top edge of the hive. This effectually sheds the rain and keeps the hive dry. In summer, when the super is on the hive, it rests on a couple of cleats nailed to the extracting super about 3 inches from the top edge. The cover being 10 inches deep in full, or 8 inches to the eaves, it is sufficiently heavy to take out any perceptible twist in the super that may cause the super to kick up at one corner a little, thereby permitting the escape of heat or energy; and yet it is not heavy enough to be burdensome to handle. By boring three ¾-inch holes in each end-piece at equal distances on a line a little below the corner of the eaves, the ventilation will be ample over the flat super-cover inside. To my notion, this arrangement for protection, when used in conjunction with the large entrance, is far better and more economical than the old-time shade-board and heavy stone.

Then, again, in the fall of the year all that remains to be done to prepare the bees for winter is to remove the extracting super, bore a couple of small holes in the super-cover, several inches apart, and cover them with window-screening tacked down to hold it in place. Now fill the telescope cover nearly full of fine blue-grass hay, or wheat or oats straw. Forest leaves afford good protection, but they spill out worse than the hay when handling the covers afterward. But the hay soon takes the shape of the inside of the cover and is easily returned if, perchance, it falls out when lifting the cover. In theory this might seem to be an objectionable feature, but in practice it will be found that a filling of fine hay will, if properly pressed down when put in, adhere to the cover so well as to cause no trouble, practically, at all. The holes in the gable-ends of the cover permit the air to circulate freely over the packing, which keeps it perfectly dry and sweet.

That is the way I winter my bees here in Southern Ohio. The apiary always looks neat and tidy. There is no tearing up or changing of locations; no packing boxes to get out and repaint; no loss of bees by unfavorable conditions in the weather at the time of packing; and no queens stung by the bees getting mixed up and entering the wrong hive. If any one knows of a way more simplified, I would like to hear of it.

When it comes to the question of the best size of frame for extracting purposes, I know to a certainty that more honey can be secured, and at less cost, by using the Langstroth frame, or a frame of that capacity. Bees will enter a 10-frame Langstroth hive-body, when used as a super, (and it is well covered to prevent the escape of heat), about as quickly as they will a shallow one. The cost of construction is very nearly the same, and the cost of manipulation is practically the same at the start; but before the season is far advanced the odds are greatly in favor of the full-depth super. This fact will be appreciated when one has out-apiaries to look after, or in any case when the apiary can not be visited often. Just as much time will be consumed in putting on a shallow case as one of double capacity, and, furthermore, such manipulation necessitates a return trip in less than half the time that the larger one will. Were 2 of the smaller ones given to the bees at once, the space thus to be occupied would necessarily be colder by reason of the increased chances for the escape of warm air through the joints. Any one can prove to his own satisfaction, that bees will not enter 2 shallow cases as readily in early spring as they will a large one of equal capacity.

There is more pleasure in extracting from shallow frames than deep ones, but I fear that in many cases the desire to keep the crop separate by means of shallow frames or frequent extracting has more often resulted injuriously rather than promoted the quality of extracted honey in general. Honey that has been stored in large combs and left on the hive till it is thoroughly ripe, though there has been a blending of flavors, is far superior in quality to honey of a certain distinct flavor, but being in a less ripened condition. When I place a super of Langstroth combs on each of my colonies, separating it from the brood-chamher by means of a wood-zinc honey-board, and covering it with a heavy piece of enamel cloth, then the flat super-cover, and last the large ventilated telescopic gable cover, I know it will not be necessary for me to make a trip back there again very soon. And I also know that if there has been any honey in the flowers, I will take a box full of honey from each of those hives when I do return.

Reader, if you know of any more simplified method for the production of extracted honey, giving equally certain and pleasing results, I would be delighted with the knowledge of it. Wheelersburg, Ohio, April 26.

Ruches and Ruchers in Europe

BY ADRIAN GETAZ.

RUCHES and Ruchers—what a queer title! Well, in French ruche means hive, and rucher the place where the ruches are kept. However, the word rucher is more specially applied to the bee-houses, or rather, bee-sheds, in which they are usually kept in Europe. During the last 20 or 30 years many apiarists have increased considerably their apiaries, and the term "apier" has come into use to designate the keeping of the ruches in the open ground.

The rucher is a necessity with straw-hives. A straw-hive completely soaked in wet weather would be a mighty poor home for the bees, or anything else. In a recent contribution to one of our exchanges, Mr. Greiner gave a description of straw-hives, and expressed the opinion that they might possibly come into use here. Well, "I don't know," but the possibility is rather remote. The straw-hives of Europe are made by the peasants during the winter evenings, and sold at a very low price. Made in a factory at factory prices they would cost considerably more than the wood hives.

THE RUCHER.

The rucher is an excellent institution. It is a kind of bee-house with an open front. The front wall is replaced by 2 or 3 long shelves on which the hives are placed. The ends and back are closed, thus forming an ample protection against the wind. The space between the shelves and the back wall is sufficient to permit the apiarist to do his work. A roof covers the whole and extends sufficiently in front to protect the hives against the rain and snow, and also against the hot sun during the middle of the day. The hives have no bottom, that is, not often; the shelves constituting the bottoms for all. An excellent idea of what a rucher is can be suggested by the engraving representing Gravenhorst's apiary in the "A B C of Bee Culture," only the passage behind the ruches is not shown.

The passage being comparatively dark, the bees do not frequent it to any extent, and therefore do not bother the apiarist when at work. Another advantage is the possibility of working during rainy days. This alone would be an immense advantage to the queen-breeders who have to do their work at certain determined days, whether it rains or not. In winter, straw or some other material can be packed around the hives, and being kept dry is far more effective than when exposed to the weather. The ruchers are generally turned toward the south and the ruches receive the sun's rays during the morning and evening, while they are protected against the sun during the middle of the day by the projecting roof. A better kind of shading apparatus could not be devised.

FRAMES.

Many of our writers are inclined to consider the hives opening behind and having the frames across as an awkward and old-foggy contraption.

Well, there is no doubt that when the hives are in the open air and placed right on the ground, the frames must come out at the top, but it is easy to see that in a rucher the case is altogether different. To pull out the frames at the top, when another shelf or the roof is immediately above it, is not exactly a very convenient arrangement—not nearly so convenient as frames placed across and taken out from behind. The frames thus used are provided with nail spacers on the front side, so as to prevent them from being pushed too close to the preceding ones, and with a kind of wing on the back side, to get hold of them when they are taken out. An objection has been made here to that kind of arrangement, that it is necessary to take out all the preceding frames when you want to get at a certain one. I never could see the point. Neither can I see an advantage in being able to handle the Hoffman frames by 2 or 3 at a time. When I want to inspect a hive for queen-cells, amount of brood or honey, or any other purpose, I want to see all the frames. Some people insist on the necessity of having hives light enough and small enough to be carried easily, or frames that can be moved and carried by 2 or 3 or more together; just as if the apiarist's business was merely to be "toting around" hives and frames just for the fun of it.

The European frames are all deeper than ours. The Dadant size, or about, is usually adopted for the hives having supers. The shape is sometimes square, usually longer than high, with a half-depth frame for the supers. Another type is the De Layen s. This is something like what we call here the Long Ideal hive and frames. The frames for that purpose are usually much taller than long. As many as 20 and even 24 are used in a hive. A division-board permits their being added successively as the honey-flow progresses.

Very few people know that the original Langstroth frame was 2 or 3 inches deeper than the one we call by that name now. Exactly why the change was made I can not tell, but I suppose on account of the cheapness of the small frame. Not the frames themselves as much as the hive containing them. With a low frame, a mere box made of 4 planks about 10 inches wide was all that was needed. By reducing the number of frames to 8, a wide piece for the bottom and another for the top were sufficient. To reduce the size still more the top-bar of the frames was made only ¼ of an inch thick, and the spacing reduced as much as possible. And here you are. "Simplicity," sure enough. And cheapness, too. And it is this very cheapness that has made the movable-frame hives as popular here. At the price which a better hive would cost, there would not be more than one where there are 20 now. We are a nation of bargain-hunters, anyway. Our women will go to a bargain counter and pay 98 cents for a worthless article, when a good one can be had for a dollar in a regular store. Our bee-keepers kick at the price of a good, big Dadant hive, and then have to pile 2 or 3 small Dovetail hives one upon another in order to get a sufficient space. Where the saving of money comes in, I don't see, not speaking of the increased manipulations.

WINTERING.

It is admitted that the bees winter better in a straw-hive than in a wood one. It has been suggested that the straw absorbs the dampness of the hive and therefore creates more healthy conditions; I doubt this very much. After a year of use the interior of a straw or any other hive is completely coated with propolis and impermeable by moisture. But there may be other things in favor of straw-hives. If kept dry in a rucher, the straw is about as good protecting material against the cold as could be devised; yet a good chaff-hive or similar protection ought to answer the purpose as well.

But for my part I am well satisfied that the superiority of the straw or even wood box-hive lies in another direction. Anyone who has transferred bees from box-hives knows that the combs are usually very irregular. It seems that the bees start at random at several different places, and then fill up the best way they can with small, narrow combs. The result is that there are numerous passage-ways between the combs, and that the cluster of bees during the winter can gradually move anywhere in the hive where there is some honey.

But in a frame hive the case is altogether different. The bees are separated by combs occupying the entire width and depth of the hive. Sometimes one of the spaces (or several) between the combs gets empty of all its honey, and the bees, being unable to go around the comb on account of the cold, perish there. Occasionally the cluster moves gradually toward one end of the hive, and when the honey at that end is out, they are unable to go to the other.

Somebody will say here that Doolittle says that it is not so, that the bees which die in the winter are old bees that have reached the end of their allotted life. Perhaps it is so when the bees are wintered in a cellar—if not always, at least sometimes. With a cellar sufficiently warm, it may be possible for the bees to get around the emptied combs and reach the honey that may be elsewhere.

But we can reach the aim without having to go back to the box or straw hive. Many European apiarists use very tall frames, and the bees, having their honey above, can always follow it, as the heat of the cluster goes above and permits them to move up.

There is, however, one objection. While tall frames are the best for hives of the De Layens or Long Ideal patterns, they are not adapted to use in connection with supers. Tall frames mean shorter frames and less of them, consequently less space at the top; smaller supers and more of them, and the upshot would be something like the tower of Babel during the summer-time—something that the bees would find very difficult to ventilate properly.

The celebrated Italian apiarist, Dr. Dubini (now dead) used to manage it in a different way. He always made several holes in the combs for passage-ways, and to prevent the bees from plugging them he put a small tin tube in each. I suppose that the holes were about ½ inch in diameter.

I have an idea that such holes would be a benefit to the queen. In passing from one comb to another, she must spend some time in going over or under, and, after it is done, hunt up the empty cells. Passage-holes would reduce the time lost, and possibly help to prevent the queen from going into the supers, as this very likely occurs when she passes over the combs. Knoxville, Tenn.

Willows and Bees—Brood-Nest Heat

BY G. M. DOOLITTLE.

"WISCONSIN" asks Dr. Miller this question, on page 369: "I would like to plant lots of willow trees of the yellow-brush kind. Bees work on them very much. Do they yield honey?"

To this question Dr. Miller replies: "G. M. Doolittle is the man that knows all about willows, and somewhere he has told us about the different kinds, but I don't remember where. If I remember correctly, some of them yield honey, some pollen, and some both. Perhaps he will be kind enough to tell us briefly again."

When the Doctor tells any one that Doolittle knows all about willows, Doolittle is sure that he is making a mistake, for there is "lots" that Doolittle does not know about the willows, right in his own locality. I wish I knew more about them, for I consider them as of the greatest value to our bees. In fact, I know of nothing which so stimulates the bees to active brood-rearing as these very same willows; especially those which yield honey, as does the "yellow-brush kind" that Wisconsin asks about. But this kind is not the first to blossom. These are what are called the "pussy willow" here.

We have several kinds of these pussy willow here, which put out their blossoms quite irregularly. Some are a month earlier than others, and some of the buds on the same trees or bushes are 10 days later than others. The kinds which seem to attract the bees most are the black willow, upon which the kilmarnock is budded, and those which produce a long, cone-like flower similar to the black willow. From these two kinds the bees obtain large quantities of pollen, but as far as I can ascertain, no honey. The flowers are of a rich orange color, and consist of a center, out of which spring hundreds of little thread-like filaments, upon which the pollen is supported. It is very interesting to see the bees work on these flowers, as you can see their motions so plainly, for the tree or bush does not grow so high but what some of the lower limbs are about on a level with the eye. It naturally grows on low, swampy ground; but with a little culture to start, will readily grow on dry ground. The golden willow (the kind with the "yellow-brush") and the white willow give us our first honey, unless I except the weeping willow, which is grafted or budded on the black willow. This last is about 3 or 4 days earlier in blossoming, and where there are many of these weeping willows, they would be quite an acquisition to any apiary located near them; but as there are very few trees of this kind about here, there is not enough to make any perceptible show in an ordinary apiary.

Neither of these last 3 willows mentioned give any pollen, in my opinion, for from a close observation for years I have never seen a single bee with any pollen in her baskets while she was at work on them. When these willows are in bloom, and the weather is warm, the bees will rush out of their hives at early dawn, coming home so loaded that they will drop short of the entrance, the same as they do in a heavy clover or basswood yield of nectar. And they work on these willows all day long, the same as they do on basswood. The flowers are similar to those which grow on the birch and poplar, being of long, tag-like shape, as large around as a slate-pencil, and from 1½ to 2 inches long. These tags or blossoms secrete nectar so profusely, when the weather is right, that it can many times be seen glistening in the morning sun, by holding the blossoms between the eyes and that orb, and on two occasions I have seen whole trees with the nectar sparkling like so many diamonds partially hidden amongst the leaves; while the trees resound with the busy hum of the bees from morning till night.

From the few trees along the creek near here, the bees store often from 10 to 20 pounds per colony while the trees are in bloom. The honey is quite similar to apple-blossom honey, and of a nice, aromatic flavor. The golden willow yields the most nectar of any willow with which I am acquainted, and as this first honey is used for breeding purposes, it lays the foundation for a surplus from the clover and basswood, by filling the hives with brood at just the right time so that the bees from this brood come on the stage of action as laborers just when these surplus-honey yielding flowers give us our crop for the year. For this, the great value of the willows will be seen.

"RETENTION OF HEAT IN THE BROOD-NEST AGAIN."

Under the above caption, on page 441, some experiments are given, as conducted by Dr. Miller, to see whether Doolittle was right in claiming that the crust of bees prevented the heat from the cluster escaping into an upper hive. If I shall not be considered too inquisitive, I would like to ask whether the *sun* was shining on the *hive* when the Doctor conducted his experiments; for, if so, he would have gotten a higher temperature in that hive than he did with his thermometer in the shade, in the open air, unless his thermometer in the open air was in the sun. And I do not think his thermometer in the open air stands in the sun at all, for all records of open-air thermometers are given "in the shade." So, if this upper story stood in the sun and his outside thermometer in the shade, the difference which he reports between the temperature of the two, would be hardly as great as I would expect under such circumstances.

Again, the only time when such experiments can be tried, to give any correct idea, is at night, for when bees are working "busily," as the Doctor reports that his were at the time of his experiments, the crust of bees is sure to be broken to a more or less extent, so that the heat escapes from it to quite a large degree. Then, with the mercury at 50 to 60 degrees in the shade, outside, the crust is never very compact, and when the mercury goes to 70 and above, the crust bees very largely abandon their position, for they are not needed under these circumstances, as the general heat coming from the hustle and bustle of the hive is sufficent to keep up the necessary brood-temperature in the brood-nest.

I am pleased to see that any have gone to experimenting, for good will come from it; and this note is only "thrown in," to help the matter along, by guiding a little in the "right direction." Borodino, N. Y.

Mints as Honey-Plants—Moths

BY PROF. A. J. COOK.

THE mints—Family Labiatæ—are a close second to the legumes among honey-plants. Like the legumes, the flowers are irregular in form, which fact alone would warrant the assertion that they are rich in nectar-secretion. Many regular flowers, like the common orchard bloom, or rosaceous plants—the linden and tulip—are profuse in the secretion of nectar, but the very fact of irregularity is conclusive on this point. Indeed, there can be little or no doubt but that in the evolution of these plants with irregular flowers the modified bloom had special reference to the secretion of nectar, the visits of bees and other nectar-loving insects, and the valuable necessary act of pollination. While we know that many plants, like some varieties of our apples and pears, which have regular flowers—by which we mean that all the petals or flower leaves are alike in size and form—must be cross-pollinated to produce seeds, we are equally certain that all with irregular flowers require this cross-pollination, or at least are the better with it. Irregular flowers, then, such as we see in the mints and legumes, always speak to us of two truths—the necessity of cross-pollination, and, with suitable moisture and nutrition, the invariable presence of nectar.

We are not surprised, then, that the sages, motherwort and horse-mint, are among our best and most famed honey-plants. The mints are typical bilabiates. That is, while the flower is typically of 5 parts, or constructed on the plan of 5, the petals are so united as to appear in 2 parts. A type of flower familiar to us all is the common snap-dragon, which, though not a mint, is also a bilabiate. Thus, we may say such flowers have an upper and lower lip, and a throat which is more or less open, as the work of cross-pollination makes most advantageous. The stamens which bear the pollen are high up in this throat, as is also the stigma of the pistil. As the bee or other insect pushes back into this throat for the coveted nectar-drop, its back becomes powdered with the pollen, and as it crowds into the next flower this pollen-dust is brushed off on the waiting stigma, and thus the bees become indeed the marriage-priests which unite the elements of the bloom, and insure offspring. As the pollen and stigma are not conterminous in time of ripening, we easily see how cross-pollination is insured.

Chief among the honey-bearing mints are the incomparable sages of California. These are not excelled even by the clovers or linden. The honey is white, delicate of flavor, and must ever rank among the very best in appearance and quality. Not only this, but the quantity is often phenomenal. This comes from the fact that the flowers are borne in long racemes or compact heads, and as the separate flowerets do not bloom all at once, but in succession, the plants are in bloom for weeks. The sages, then, are marvelous honey-producers, first, because of the generous secretions of each floweret, and second, because of the immense number of these flowerets and the long period of bloom.

The motherwort, catnip (which was so highly esteemed by the late Mr. Quinby as the best plant for roadside and waste-place planting), the famous heather of Scotland, are other familiar examples of the mints. Of the three most common families of plants conspicuous for their irregular flowers, each has one or more very noted honey-bearing species. White clover, alfalfa, sweet clover, and mesquite, are all famous among the legumes; white sage, black or ball sage, and horse-mint, are as important among the mints; while willow-herb and figwort are famous among the plants of the other most familiar bilabiate family—Scropulariaceæ.

The legume family gives us our most valued cultivated plants, like clover, beans and peas. The mints are valuable for ornament, and extracts; while the figwort family furnishes us many of our finest ornamental plants, like the tacomas and biguonias. The mints and figwort may well be planted in waste-places, for a goodly number of them will serve to fence out famine in the hives in case of failure of other honey-plants. Mr. Harbison—and who can speak with more authority?—feels sure that bee-keepers may well take pains to plant black sage, which he and many other bee-keepers of California think even more productive than white sage, where fire or other agent has destroyed it.

MIMICING MOTHS.

I have just had the pleasure of looking through one of the many fine collection of insects of Berlin. The clear-winged Sesias claimed my attention and admiration. They are moths, yet look astonishingly like bees and wasps, which they mimic in a wonderful way. This, no doubt, preserves them from hungry birds that otherwise would snap them up. These Sesiids are borers, and the caterpillars boring in trees and plants often do serious harm. Here belong the destructive peach-tree borers and squash-borers. While these moths fly among bees and wasps in the bright sunshine of noonday, and in form and color are so like them, they are yet easily told. Their body is tipped with a brush of hairs instead of the sharp, polished sting. Berlin, Germany.

Queen-Rearing—The Small-Nucleus System

BY HENRY ALLEY.

WITH the advent of the Langstroth hive success in apiculture rapidly advanced. From the box-hive system which was no system at all, no particular success could ever be expected. The beginner in bee-keeping has been taught by all the text-books on bee-culture that the only way to make apiculture a success was to "Keep all colonies strong." We should keep this fact in mind at all times, and print it in large letters, and post it in some conspicuous place in the apiary. Experienced bee-keepers well know that weak colonies are worthless and bring no returns of any kind. This not only applies to large hives, but to nuclei as well. I would as soon tolerate sick chickens in my coops as a feeble and weakly lot of bees. Of the two nuisances the former are much more desirable. No apiary can be run successfully on babyish principles. Every colony of bees, whether the hives be large or small, should be crowded with bees, brood and food, and each one should have a vigorous queen. If any other methods are adopted, failure will surely result so far as profits are concerned.

Now, first, the principles of honey-gathering are equally applicable to success in queen-rearing. Good queens can not be reared on the baby system, or by the half-starved and half-nourished way some people say they can. There should be plenty of bees to cover all the combs and brood of a nucleus, so that the temperature at all times may be kept up to the natural point.

Strong and vigorous queens are the kind that fill the combs with brood, the hive full of bees, and store the honey in the supers. The larger the force of bees, the more honey, and the larger the profits.

Has any one ever discovered that weak and feeble colonies of bees build queen-cells, and swarm in the natural way? The swarming sometimes takes place, but not in the natural way. What are the conditions under which bees build queen-cells, and swarms issue? Why, strong colonies, hives full of bees and combs full of brood. If the advice some people are giving bee-keepers is taken seriously, many bee-keepers will be dividing up their strong colonies into say about 40 small ones. Now, if a few bees work well in queen-rearing, why won't the same principle work well in honey-gathering? The fact is, such a system won't work well in any case. Don't expect to succeed in bee-keeping unless Nature's ways are pretty closely followed.

Some 12 years ago, Mr. E. L. Pratt had a queen-rearing apiary of baby nuclei about 2 miles from my yard. While Mr. P. could manage his system very well, it never would do for me, nor would it do for bee-keepers generally. Well, Mr. Pratt sold his entire outfit to me, and moved away. I converted the entire thing into kindling-wood, as I could find no one who wished to purchase it from me. His nucleus frames were 4¼ x 4¼ x ⅞ section boxes. Eight of these sections just filled a brood-frame about the size of the standard Langstroth frame. Now this whole thing in theory was very ingenious, but far from practical. I tried to use the small frames in the way Mr. Pratt did, but I could not induce any queen to deposit eggs, except in a few of the central combs. The queen did not take to the wooden partitions right in the center of the hive. Queens want a clear field to work in. I could not rear a strong colony of bees by any such arrangement.

Another great difficulty with the Pratt system was in the arrangement of the combs in the nucleus boxes. As the small combs had no projecting top-bar, the frames had to rest on cross sticks at the bottom. When opening such hives the bees naturally run to the bottom of the boxes. By so doing there is great danger of crushing the bees and queen when the frames are replaced.

If I understand correctly, the system above mentioned is now largely used by Mr. Pratt. I also understand that he now fastens the frames to the cover of the hive, so that all lift out together. The difficulties attending this method need not be explained here. All can see them at a glance.

The question is, Why is all this clap-trap arrangement in queen-rearing necessary? Can any one explain it? Dare any reader of the American Bee Journal rise up and say that such a contrivance is any improvement, or even as good as small combs constructed on and used as per the Langstroth system? Doesn't the reader see that the small hive (call it baby nucleus, if you please) having hanging frames and so constructed that each frame can be lifted out separately, is far more practical and much easier to manipulate in every way?

These new-fangled notions in connection with bee-keeping are perplexing indeed, and to those who love simplicity in all things used in practical bee-culture, they seem like a nuisance.

I am not tooting my own horn, as I have nothing in the way of bee-supplies for sale. My whole time is devoted to queen-rearing. To carry out the entire Pratt system of queen-rearing, one requires about a cart-load of fixtures. Some 60 pieces in number, and an expenditure of some $8. This does not include hives for nuclei.

For many years I have used small boxes for nuclei. Perhaps they cannot be classed as "baby" nuclei, as each box is large enough to take four 5 x 5 frames, 3 pints of bees, and the boxes are kept full of bees and brood at all times, as much so as it is possible to do. The hanging frames are used, as they are easily and quickly removed without danger of crushing the bees. So long as these small boxes are kept well supplied with bees and brood, the young queens are sure to make a successful mating trip. There are sufficient bees to defend the hive against robber-bees, and the bee-moth. Now, I know from long experience that when such small nuclei are used, and not kept up in young bees and brood, the queens, when they make the mating flight, are pretty sure to be balled as soon as they enter the box. Mr. Pratt says this is not so with his baby-nucleus system. Try it, and see if I am not correct. Rather queer, isn't it, that bees behave so much differently in some parts of the country than they do in others?

In 90 percent of all cases where nuclei contain only a few old bees, and no brood, the young queens will be destroyed when returning from the mating flight. Young bees will not do such mean work, but bees, like the human family, don't stay young. Old bees are worthless in queen-rearing, and are a nuisance in the apiary at all times.

Speaking of these small boxes, I wish to say I rear no queens in them. Only the strongest colonies of bees are used by me in the production of queen-cells. My queens are kept in small nuclei after they hatch until they have filled the combs with eggs, and the queens are tested.

Now there may be many of the readers of this Journal who are contemplating making queen-rearing a business, and I am quite sure I can give some good practical advice to all such people.

If I were to start again in the queen-rearing business, I would not tolerate even the small boxes I now use in my apiary. Now these boxes are very handy and convenient, and almost inexpensive, but there are several reasons why I would not, with my present and past experience, use such a system again. At present I am established, and am sort of obliged to continue in the same old way. But take my advice. If one is about to enter the queen-rearing business, adopt the standard Langstroth frame for nuclei. There are many reasons why you can and should do this. Some of them are these: In the first place, you would have but one size frame in the apiary. You all know that brood-combs of several sizes and styles are a nuisance in any bee-yard. I would use 3 frames (not less than 2 in any case) in all nuclei. When fall comes around, the queen-trade is over, and the nuclei can be doubled, say putting 3 in a large hive, and when so united they are likely to winter successfully. On the other hand, what would one have to go into winter quarters with if there were several hundred sickly baby nuclei that had but a few bees and no brood?

If the standard frame is used, the bees could be divided again in the spring after the hives are well filled with bees and brood. So you see, after the first cost of using standard frames for nuclei, the expense is really nothing, while all the nucleus colonies will be strong and in fine condition for any purpose.

By my nucleus system, in the fall I have a fine lot of bees and brood to unite for winter. They are united in October, making about 20 strong colonies in all. When fed up they appear to be in fine condition. Now I have tried for the past 20 years to winter the nuclei when in the above condition, and only with partial success. I find it quite difficult here in this climate to winter full colonies, even when they are in the best of condition in the fall. What prospect have "baby" nuclei of wintering, if full colonies can not be successfully carried through the 6 months' confinement they will have to endure?

My advice is not to adopt any "babyish" fixtures to use in keeping bees, if you wish to succeed. Not one of our successful bee-keepers has ever adopted anything of the kind. They all use standard and practical equipment in their apiaries.

No man can succeed in anything by spending his time fussing with fussy and unnecessary things. Follow Nature's methods as near as possible. Lots of things can be done with bees, and one can get any amount of pleasure *in* them, but they are not practical nor profitable. Essex Co., Mass.

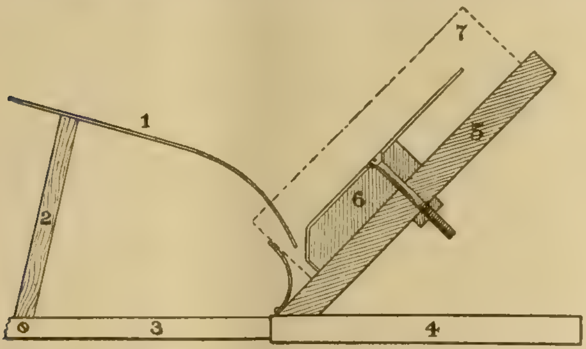
Dewey Foundationer—An Adjustable Machine for Securing Foundation in Sections

BY E. H. DEWEY.

THIS foundation-fastening machine is box-shaped, with the cover, which is about one-half its length, depressed between the sides; a table sliding on the same is drawn to the rear by a spring attached to the side of the machine.

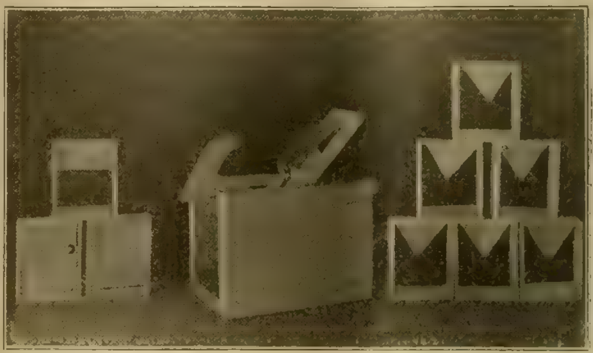
The forward edge of the machine is beveled. A support is attached to the forward edge of the table at such an angle as to permit the operator to have his work under observation constantly.

A gauge, mounted by an iron plate, is secured to the support by bolts. The gauge and plate automatically center the starters, and if sections of more than one width are used the machine is adjusted by loosening the bolts and slipping between the support and the gauge a wedge of the desired thickness. The button, which acts as a check to the movable plate, is turned when the machine is adjusted, to permit the plate to stop at the desired spot.



It will be noticed that the upper forward edge of the gauge is cut away and the stationary plate projects over the upper edge, but not quite flush with its base.

A curved yielding spring is attached to the beveled edge of the table to hold the section securely against the base of the gauge.



Two rods extend in a horizontal position from the forward end of the table to the plate supports. The plate supports are reciprocated on bolts that pass through the sides of the machine and the supports.

The curved plate is secured to the supports.

Two creases that meet at the center and rear of the curved plate collect and convey the melted wax away from the machine at one point.

The section is slipped over the gauge and is held in position by means of the spring on the forward edge of the table. The stationary plate is about 3-16 of an inch from the section. When the plate is well heated the thumb of the right hand is placed on the rear edge of the table with the forefinger extended on the upper side of the machine. The table is now pushed forward, by the thumb, until the curved plate, after passing over the edge of the section, comes to rest. The starter is now slid down the stationary plate until it comes in contact with the heated plate, when the table is released and the starter is pushed to the section to which it is securely fastened.

The instant the cable is released the curved plate is automatically withdrawn from the section, and any adhering wax is carried away from the section and the working parts of the machine.

A screw prevents the table from being carried completely over when the table is released.

Full sheets may be secured as readily as starters, and both if desired.

Attention is particularly called to the position of the curved plate with reference to the section when the machine is closed. In its passage the curved plate does not come in contact with the section at any point. No dripping wax can soil the section or the machine.

The beveled edge of the gauge permits the heated plate to pass beneath the stationary plate without touching any part of the machine.

Sections are supplied with starters as fast as they can be picked up, and come from the machine absolutely free from dripping wax or smoky deposit from the lamp.

The machine is the only one of the kind ever supplied with a curved reciprocating plate; in fact, it is constructed on entirely new lines, and has stood the severest tests satisfactorily. Berkshire Co., Mass.

[This is one of the things that is all right if it does all that is claimed for it. We understand that a patent was applied for, and that it was to have been put on the market this season. But we do not recall seeing it advertised in any of the bee-papers.—EDITOR.]

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Convention Proceedings
PRESIDENT

NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

The National Bee-Keepers' Association held its Annual Convention in Brunt Hall in the Bush Temple of Music, Chicago, Ill., on Tuesday, Wednesday and Thursday, December 19, 20 and 21, 1905.

The opening session took place on Tuesday, December 19, at 7:30 o'clock p. m.; the President-elect, Mr. C. P. Dadant, of Hamilton, Ill., occupied the chair.

The Secretary, Mr. W. Z. Hutchinson, read a paper written by Mr. L. Stachelhausen, of Converse, Texas, on

THE CONTROL OF INCREASE

The natural way of increase is swarming, and, therefore, the first problem is control of swarming, and this is very important for bee-keepers who keep a large number of colonies in several apiaries. As we have no man in the out-yards to watch for swarms, and as it would not pay at all to keep such a person there during swarming-time, every swarm cast by any colony would be very probably lost.

I am tempted to give you a scientific talk about the cause of swarming, but I think you prefer more practical hints. We know a number of ways to prevent swarming; one of the most practical ways to prevent, or, at least, to delay swarming, is to use large hives; that is, a large comb-surface, by which the bees can extend the brood-nest in every direction. At the same time colonies in such large hives will develop faster during the spring, and become stronger colonies. We can force such a development in smaller hives by spreading the brood and other laborious and dangerous manipulations. In a large hive with plenty of honey a healthy colony will develop to the greatest possible strength without any manipulation made by the bee-keeper.

It may be said that such large hives do not always, and under all circumstances, prevent swarming. This is true, but I have observed, if, in an apiary, 10-frame Langstroth hives are changed to larger ones, the bees will swarm less by and by every year. In my locality the bees from hives not larger than 8 or 10 Langstroth frames will swarm so much that one man could hardly manage an apiary of 100 colonies. I could tell you stories about the ways some of my bee-keeping neighbors acted to get rid of these surplus swarms. For about 24 years I have used larger hives, and have no trouble of this kind any more. This is a very important difference, if bees shall be kept in as many colonies to make a profit-bearing business.

In my locality the problem is to keep the bees from swarming till the main honey-flow commences. During this flow the bees will not swarm, if they have not made preparations for it before this flow commenced. With such circumstances, hives as large as the Dadant hive will prevent swarming sufficiently in most years. In other years, which are more favorable for brood-rearing, I have to watch my colonies more carefully. If I find a very strong colony with brood much extended, I have to manipulate it, especially if I find queen-cells started. It may be set down as a rule, if we find 2500 square inches of comb-surface occupied by brood, this colony will probably swarm soon, even from a very large hive.

The prevention of swarming may have different purposes. If we can't, or are not willing, to watch our colonies during swarming-time, we can make the swarms artificially a little earlier; thus they would swarm naturally, but in this case we will get as much, or even more, increase. If we want less increase, we make only so many artificial swarms as we think necessary to prevent natural swarms. Or we may not want any increase at all, and wish to keep the whole force of a colony together and have it as strong as possible during the honey-flow. For this reason we have to select different ways for prevention of swarming If we make swarms artificially, we can make one or more swarms from every colony strong enough, or we make one swarm from two such colonies, or we take the material to form a new swarm from a larger number of colonies. All this is done for a permanent increase. A second way is, when no increase is wanted, to divide a strong colony for some days only, and when the swarming fever has past, we unite these two colonies again. A third way is to manpiulate the colony in such a way without dividing it, that it will not or can't swarm. We will consider these three ways.

There are, again, many different ways of artificial swarming. During many years I used the well-known plan to make three out of two. A strong colony, A, is shaken into a new hive with starters or full sheets of foundation, and this hive is set on the old stand of A. The brood-combs without bees are placed in another hive, and this is set on the stand of another strong colony B, and the colony B receives a new stand C. To the colony now at B a queen fertilized, or virgin, or even a queen-cell, is introduced. If the honey-flow is good and of long duration this plan can be used with profit, but the colony at B is in a bad condition for some days, having no young bees to feed the larvæ, a part of them may starve and be drawn out afterwards. The colony C has lost all the field-bees, and if the hive does not contain very thin, watery honey, the young bees can't prepare the necessary larval-food, and some of the young brood is lost again, except we give some water to this colony in some way till some of the young bees will fly out to gather this water outside.

Since a few years I prefer for these reasons, another plan, especially recommendable if we want very little increase. I take from a colony, which I expect would make preparation to swarm, 3 or 4 brood-combs (3 of my frames have not quite as much comb-surface as 2 Langstroth frames). The bees from these combs are shaken back into their hive. In place of these brood-combs empty combs or frames with full sheets of foundation are given to this colony. Eight of these brood-combs from different colonies are set in another story, and 2 empty combs added; this story is set on top of another strong colony over a queen-excluding honey-board. In this way I go through the yard till all the colonies strong enough are managed. In about 2 or 3 hours these brood-combs over the excluders will be covered with young bees, and now I remove them again. Two such stories with brood and bees from 2 different colonies will form a new colony, which is placed on a new stand, a queen in a cage closed with candy is introduced, and at the beginning of the honey-flow one or more supers are given to this colony and this bee-yard is safe for 10 days, at least.

The advantage of this plan is, that the colonies are weakened not more than necessary to prevent swarming, and the new colonies are at once ready to store honey. Hereby, it is important that we take mostly capped brood from the colonies, and that we give the frames of foundation at the proper place. Our purpose is that this foundation should be drawn out and eggs laid in these cells at once by the queen, therefore they must be given at such a place, where the queen is laying eggs in the center of the comb, or will soon do so. If we have taken away combs, in which some young bees are gnawing out of the cells, just in the center of these combs, we can put the foundation right in their place, because in a few days the queen would lay eggs there anyhow. If this cannot be done, a safe way is to remove the remaining brood in the old colony close together, and to give the foundation on both sides of the brood-nest between the last brood-comb and that comb containing mostly pollen, which generally is found on both sides of the brood-nest. If this is not observed, and we examine the colony 10 days later, we may find these combs filled with honey instead of with brood, and this will be a hindrance for the queen all the summer through. Many other ways of artificial swarming can be used, too many to be mentioned here.

The second way to prevent swarming is to divide a colony, which will probably swarm very soon, or has already started queen-cells, for a few days only, and to have that part of the colony which receives the brood-combs with the queen-cells weakened so much in bees, that these surplus queen-cells are destroyed by the bees themselves. As soon as this is done both colonies are united again. This can be done in different ways.

1. The old colony is removed from its stand and a new hive containing some empty combs and some frames with starters is set on its place. From the old colony is taken 1 brood-comb with 1 or more queen cells and placed between 2 empty combs in the new hive on the old stand. By shaking or brushing, more bees from the old colony are added to this swarm, being careful not to get the queen in with the bees. The supers are given to this swarm on the old stand, and the parent colony, having the old queen, is set to one side or on top of this swarm. By this manipulation the parent colony is weakened so much that it gives up all swarming and will destroy the queen-cells. This generally takes place in less than 6 days, and now both colonies are re-united. The queen-cells on this 1 frame of brood are cut out, the brood-comb set back into the old colony, the new hive is removed and the parent colony set back on the old stand. This plan was lately recommended in the United States and called "the Sibbald plan."

2. Another way of this kind is known as the "shook-swarm system." From a strong colony nearly all of the bees with the old queen are shaken or brushed into a new hive with starters or foundation, and this is set on the old stand. The old hive with the brood-combs and a sufficient number of bees to cover and nurse the brood is set to one side of the swarm. For reuniting we wait till the brood has hatched from the old brood-combs and unite the young bees with the swarm by setting the old colony to the other side of the swarm 10 days later. In 10 or 11 days afterwards all the brood of the old colony will have hatched and now we shake all the bees from this colony in front of the swarm.

L. STACHELHAUSEN.

When we make the shaken swarm we can give one or two brood-combs or none at all; we can give to the swarm empty combs, full sheets of foundation or starters only; all this depends on circumstances. I used this shook-swarm system for producing section-honey and I will tell you how I planned it out. My experience was, that I could not get a satisfactory crop of section-honey, if I had given the section-supers to an old colony in a 10-frame Langstroth, or a still larger hive.

About 18 years ago W. Z. Hutchinson recommended in a little book, "The Production of Comb Honey," for this purpose the use of swarms which were hived in a contracted brood-chamber containing starters only. Since then I have used swarms only for the production of section-honey, and worked all the other colonies for extracted honey. Using large brood-nests I got less swarms every year and made them artificially by shaking the bees off from the combs, manipulating these swarms exactly as recommended in this little book. Such shaken swarms always worked just as well as natural swarms—even better, as they were generally stronger.

The only disadvantage of these natural or shaken swarms is, that they are getting weaker every day during the first 3 weeks, and more bees are necessary by and by for nursing the increasing brood. To avoid this I used Heddon's plan for preventing after-swarms, by changing the place of the parent colony and so drawing some bees from it to the swarm every 8 or 10 days. It does not change the principle, if this drawing of bees from one colony to the other is performed in some other way.

Some bee-keepers claim that shaken swarms should not be made, except a colony has started queen-cells. This is not so, if a large brood-chamber is used, but it is necessary that the colony be as as strong as possible and have many young bees. The starting of queen-cells is a sign that a surplus of young bees compared with the open brood is present in a colony; in a large hive so much brood may be present, that no such surplus of young bees may appear, nevertheless more of them will be in the hive than in another, smaller hive, which has queen-cells. When the shaken swarm is made, this open brood is removed, and we have exactly the same condition as with a natural swarm.

Further, in criticising this plan it is said, that the swarm has to build a new brood-nest, which causes a larger consumption of honey, which honey would better be stored in the sections. But such swarms work with more vigor than a colony which is nearly in a condition to make preparations to swarm; as no combs are in the contracted brood-chamber all the honey gathered is forced into the sections, which contain full sheets of foundation, and some of them partly drawn out. These circumstances overbalance the necessary building of new combs.

In my opinion, the most satisfactory way of producing section honey is to use large brood-chambers in the spring, and when the main honey-flow commences the colonies are managed after this shook-swarm system. This is especially true, if all natural swarms must be avoided.

3. This building of new combs can be avoided in the following way: A shaken swarm is made on the old stand, with the old queen, and the parent colony is set to one side or on top of this swarm. As soon as one of the young queens has hatched and has destroyed the other queen-cells in the parent colony, both colonies are reunited. If the old queen shall be kept, it is not necessary to hunt up the young queen in the parent colony. At evening, before the bees cease to fly, we exchange the places of the two colonies for about an hour, and any field-bees from the swarm will enter the parent colony; now the hives change places again, when the bees are not flying any more. These field-bees are used to an old queen, and will, during the night, kill the young virgin queen. The next morning both colonies are united again. If the young queen shall be kept and the old one removed, the best way would be to wait till the young queen is fertilized, then the old queen is found, removed, and both colonies united.

In this way no new brood-nest is to be built, and the colony is divided during a few days only, the swarming impulse is removed, and the bees themselves have destroyed the queen-cells; but the plan will hardly work for section honey, and the same I think can be said about the Sibbald plan. In both cases the brood-nest, after reuniting, will contain too many empty cells, which will at once be filled with honey.

Now we have to consider the third way of preventing swarms by preparing the colony in such a way, that it will not or can't swarm.

Here may be mentioned the different plans, by which the queen is prevented from swarming out, in a mechanical way, as by the use of a queen-excluding honey-board or a queen-trap, or by caging the queen for some time. These plans are quite against the nature of the bees, and have generally proven unsatisfactory. We can remove the old queen entirely and allow the colony to rear a young one. This plan will prevent swarming, if at the right time the surplus queen-cells are destroyed, but the colony is weakened considerably, probably more so than if a prime swarm and no after-swarm were allowed. The plan takes too much work and attention to be practical in a large apiary.

Another way of this kind has been known for some time, but is not mentioned very often. When queen-cells are reared in an upper story, over an excluder, it was observed that such colonies did not swarm as long as there is some brood in this upper story. If this is true, it is plain that swarming can be prevented, if once in a while some brood-combs are removed from the lower story to the upper one over this excluder. This idea can be used for section honey, if a divisible brood chamber is used. When the honey-flow commences, the upper part of this brood-chamber is removed, a queen-excluder laid on top of the lower part, over this one or more section supers and on top of them the upper part of the brood-chamber. The upper brood-story is kept on the hive till all the brood has hatched and the combs are filled with honey, then these combs are extracted or used for winter food in the same or another hive.

Against this plan I have only this objection, that the queen-excluder is a considerable hindrance for the bees, but I think in many cases, when section honey shall be produced, it can be dispensed with, as the section-supers themselves have probably the same effect as the queen-excluder.

Another plan is described by Dr. C. C. Miller, and called the "foundation plan." When in a colony queen-cells are found with eggs in them, these eggs are destroyed; if, 10 days later, larvæ are found in queen-cells, the queen is found and caged and all the queen-cells destroyed, the hive removed and in its place is put a hive containing three frames of foundation. Upon this hive is put an excluder and over the excluder the old hive, with brood and bees, and over this the supers. The queen is run in at the entrance of the lower hive and the colony is left for a week or 10 days. At the end of this time the lower story is taken away with the excluder, and the queen is put back in the old hive, which gets the old stand.

This is a modification of the last-described plan. I have never tried this plan, but it seems to me, that in some localities, the colony may swarm after treatment, and that the examination of all colonies every 8 or 10 days to destroy the eggs in queen-cells or to treat the colony, if larvæ are present, will take too much time and labor.

Another way belonging to this class is "Simmins' non-swarming system." It is said that the bees will not swarm, if an empty space is given to them between the brood-nest and the alighting hole, in which the bees can build combs. Simmins says that an important item in this management consists in supplying every section with fully worked combs. As this is hardly possible in a large apiary worked exclusively for comb honey, this may be the reason that the plan was not favorably accepted on this side of the Atlantic. You will see that this principle is partially employed in Dr. Miller's foundation plan. L. STACHELHAUSEN.

The President declared the paper open for discussion.

Mr. McEvoy—One point in the paper read was as to shaking bees onto comb. Some people complain that these colonies would grow weak in a few days after, but my plan is to put a cone bee-escape across the front after 5 or 6 days for a few hours; the bees come out and they cannot get back into it again. Then you can send your bees where you want to. Another point is that the queen destroys the young queens because the guards are off the cells. The first queen that hatches will do it.

Mr. Holtermann—I think that the subject that we have here tonight is one of the most important subjects that is going to be brought before the convention, that is, the control of increase. We have had different methods given to us. The paper I think is a very good one and very exhaustive. I think that there is a method which can be given in addition to what has been here. Some 4 or 5 years ago I began bee-keeping again, and the writings of the Dadants had made quite an impression upon me, for I always looked upon them as very successful bee-keepers, and good, sound reasoners; and their observations led me to adopt a larger hive. I had been a strong advocate of the 8-frame Langstroth hive up to that time, and I adopted a 12-frame Langstroth hive. What Mr. Stachelhausen says is correct. I think the basis or the beginning of the successful control of increase is large colonies. Now, there are several features which come into play in the control of increase. First of all, the general impression is that the time to note the swarming impulse is when eggs are deposited in the queen-cell cups. I think in that practice we make a mistake. I think the first indication towards swarming is the drone-brood; but we will let that alone because in a great many cases they may not swarm at all. But the next is when cell-cups are built. I have had men say to me, "I see cell-cups built in many cases and no swarming." That is true. The conditions may change, and so on, so that they will not swarm when cell-cups are built, but that is the very reason why we should note that. In my manipulation in the apiary when I see cell-cups built I take it as a hint that the bees are drifting very closely towards swarming, and that is the time, in my estimation, that the brood should be taken out, if at all, unless you are approaching, as far as you can tell, the close of the honey season, and then you do not need to do that.

The next point I find, and I think where bee-keepers make such very great mistakes, is in the amount of super-room given to the bees. I don't know how it is over here, perhaps, as fully as it is in Canada. But the general method is to give an extracting super to a colony of bees. I am satisfied as long as we think we can run our bees successfully with only one super, so long we will not make the most out of our bees, or succeed in keeping down swarming to the greatest extent. No one should think of taking extracted honey without having at least an average of 2 supers to the hive.

Then there is the matter of ventilation. I would like to take you into a frame building on a hot summer day with a ⅞-inch board roof, and very little ventilation, and put you at work extracting; and yet there are nine-tenths of the bee-keepers who consider it economy to have half that, and have no more protection than that ⅞-inch board; and they have what is equal to a stove in addition in that building in the young bees and brood in the hive. I consider it a very gross extravagance to use a hive with as little as a ⅞-inch board protection. We should protect them more.

Next, in order to keep down swarming I am going to try to show you the importance of ventilators in the supers. You have a colony of bees there, and all the fresh air they can get has to come through that brood-chamber and up into the super; by the time it reaches the super that air is foul, and your bees on that account become discontented and want to swarm, and therefore I use the system of ventilation with supers. A great many of the entrances to hives are too small. In our country we have hives in which the entrance does not go all the way across the front of the hive. I learned a lesson from Mr. S. T. Pettit, to enlarge the entrance of the hive during the warm season by means of wedges ⅞ of an inch at the front and going to a point at the back, and as soon as the swarming-time comes on slide one between the bottom-board and the brood-chamber, and in that way increase the entrances ⅞ of an inch. By those methods we can keep down swarming to a great extent. In using the greater amount of super-room, you want to get the condition where you have sufficient super-room in your hive that the worker force in that hive is contented, and in such numbers that the bees that are dying off from day to day are about equal to the number of bees that are coming on. You can't do that unless you have the extra amount of super-room.

The reason why I have said I consider this perhaps the most important subject that will come before this convention is this: I am thoroughly satisfied that the secret of large yields of honey is to keep the bees together. No matter whether your honey-flow is short or long, it makes no difference so far as I can see it as to that point. Your bees then are always ready; your bees come with large forces, and they can take advantage of everything that may turn up, no matter whether it is clover, basswood or buckwheat—whatever gives you the largest amount of yield.

As far as fall flows are concerned, I know by observation that a great many do not get the amount of honey they could in the fall of the year, because by that time their colonies are so broken up they really have few, if any, strong colonies left.

Dr. Miller—When you speak of ventilating supers, do you mean extracting supers, or sections, or both?

Mr. Holtermann—I have particular reference to extracting supers. The only method I can see of ventilating the comb-honey supers is by having a ventilator at the top of the brood-chamber. I don't think it is practicable to use them in comb-honey supers at the time when the bees are capping the honey.

Mr. Nau—I work the super in the same way Mr. Holtermann does, and I have no swarms. I have a 13-frame Langstroth hive, and whenever one super is half full I put another under it. I get as high as 6 supers full of honey off one hive.

Dr. Miller—I would like to emphasize the point that is made by Mr. Holtermann, and that is as to the importance of ventilation. I have had from year to year what I call "piles," that is, piling them up 3 or 4 stories high, and allowing each colony to have an abundance of ventilation; in other words, the full entrance to each story. I never had one of these piles swarm. I wouldn't like to say that will always be a certain preventive of swarming, from the fact that these piles were generally formed from what were rather weak colonies in the first place, and built up gradually to very strong ones. The ventilation of the colony can always be made a success with extracting supers, as Mr. Holtermann says; and I have wondered many a time why men working for extracted honey did not have a current of air running right up through the whole thing. Mr. Holtermann says that by having the air come out through the brood-chamber but not through the supers will work for section honey. A good many years ago, before any such thing as sections were known, I was in the apiary of Adam Grimm, of Wisconsin—he was working at that time for comb honey, and had little boxes upon his hives and over them a telescope cover, and the day I was there, he was raising up these covers and blocking them up a little so that the air could get up through the brood-chamber, and I remember, with his very emphatic German way of saying things, he turned to me and said, "I consider that very important." From that time on for a number of years I had that same kind of ventilation. But I want to tell Mr. Holtermann this, that in the upper part of the story, all of the sections near that will be much slower in completion than the others, and that is the objection to it. I am dreaming some time of having a kind of way of ventilating the super sections right up through the center. In some such way I would like to have the advantage of the ventilation and still hold on to the sections. But in the matter of ventilation when working for extracted honey, I believe you have the key of the whole situation; I don't believe you need have much swarming there at all.

Mr. Holtermann—You know why that is, Dr. Miller?

Dr. Miller—No, I don't.

Mr. Holtermann—The impression I had at one time was that if I made an opening at the top of the hive the air would go in at the front and come out of the top, but the fact of the matter is you will find that the air is drawn in at the top. That air is cool when it first strikes the hive, comparatively, and it has not been raised to the temperature necessary for that evaporation to go on, and therefore in using ventilators in comb-honey supers there is the tendency for the bees not to cap as readily there as in other places, because it does not ripen as rapidly.

Mr. Taylor—Will not bees carry the honey out there, too, as well as not cap?

Mr. Holtermann—There may be a tendency for them to do that because they can't ripen it as well.

Mr. Taylor—The ventilation would help to ripen, if anything, and they would not carry the honey out.

Mr. Holtermann—If the temperature outside is 80 degrees and the hive temperature is nearly 100, the temperature of the air when it first enters the hive has to be raised to the inside temperature by the bees.

Mr. Taylor—That is in the shade. But out in the apiary it is generally as hot outside as it is inside.

Mr. Holtermann—It is night and day.

Mr. Taylor—The reason I have given for that is, that the bees to guard their honey will carry it away from an opening for fear of robbing.

Dr. Bohrer—The question under discussion is not a new one. Mr. R. C. Otis once put this question to me: "Why do bees swarm at all?" The reply was that it is their nature to. It applies to the honey-bee as well as every other department of the animal kingdom—to propagate their species. There are two things that come as near controlling it as anything—one is when there is an abundant flow of honey, provided you give them room. I think the first movable hive I made had 18 frames, and I had one of the largest swarms I ever had come out of that hive. I never had a swarm cast where bees were hived in sugar hogsheads. And I have never seen swarms cast from an old-fashioned salt-barrel, or any receptacle of that kind. Take a large hive and give them abundance of room, and if the honey-flow is abundant they will work at that and not have much swarming, but give them small hives and they begin to give trouble. At the present time I can't think of any plan that will effectually prevent swarming.

Mr. Holtermann—Isn't the reason because they are confined in those hives during the daytime and they are comparatively warm and the ventilation is not proper?

Mr. Taylor—I would like to ask a question of Mr. Holtermann. He spoke of looking for the starting of queen-cell cups. Are there no cups left over from the previous year in your hives?

Mr. Holtermann—There are cups, but I don't think anyone would mistake this year's cups. There is a very distinct difference. If those cups are there, and you expect a honey season ahead of you, that is the time you should deal with the swarming matter. When they begin to put brood and larvæ and eggs in the queen-cells, in my estimation you have gone a step too far to prevent the swarming without a serious breaking up of your colony. To protect your colonies temporarily requires a great deal of labor, and a good many extra hives.

Mr. Baxter—Hunting for cups is too much work for me. I have found by 25 years' experience that there is an absolute rule to prevent swarming, and that rule is to have large hives and see they have room which, without giving any other ventilation, gives them ventilation. But under certains conditions that is not enough. I want ventilation from below—I don't want it from above. It is sufficient if you raise a hive about ⅞ of an inch above the bottom-board. I have hives, some of which could be raised, and some could not be, and no matter how many supers I put on top of those movable bottoms, when the weather became warm they would swarm anyway; but where I raised the hives from the bottom and gave them sufficient room above I have never had any trouble with swarms; and I have had as many as 250 colonies.

Mr. Holtermann—What is the length of your honey-flow?

Mr. Baxter—It begins about the first of June and ends the middle of July, and occasionally in the last of September or the beginning of October. It is for extracted honey. I wouldn't bother with comb honey; I have tried it long enough.

Dr. Miller—In my locality, working for section honey, raising up the hive will help, but it won't prevent swarming; a whole lot of them will swarm. With reference to this matter of the size of hives, I believe in that general rule, and if I didn't believe in any other wise I would because of the testimony of the men I believe in so thoroughly as I do the Dadants; and yet in my locality that does not work as I would like it to. One year I got 2 of the Jumbo hives, deep frames—10 frames—and deeper than the Langstroth, and I was going to have that, and have nothing else if those things didn't swarm. The next spring after they were filled, the very first colony that swarmed was one of those Jumboes.

Mr. Bohrer—With regard to ventilation, that big salt-barrel had no upward ventilation, but it had lots from below. In addition to Dr. Miller's trouble I had lumbago in handling the same hive.

Mr. Holtermann—What did you put in the supers of those Jumbo hives?

Dr. Miller—The same as I did in the others.

Mr. Holtermann—Drone comb?

Dr. Miller—No, sections with foundation. I am not sure whether they waited until I had the supers on.

Mr. Ferris—There is nothing I have studied more than the question of producing the most brood from the least number of bees I winter, and getting the most honey from them. To keep them entirely from producing any swarms until after the flow is over, I divide them at my will. I use both 10-frame Langstroth and a special hive which holds 14 Langstroth frames, 21¼x21¼, and a division-board through the center. This makes a large hive. Provide that through the center with a solid division-board which is removable, place a queen in the fall on each side of that division-board. I winter 2 queens in an ordinary colony of bees in this hive. Then in the spring I work each division up to 7 frames full of brood. Then I add on another story, and as each story has a place for the division-board, I put in a division-board, and in that way I get both sides worked up to an exceedingly strong colony in brood, up to the time when the honey-flow begins. At this point I take away both queens, and let them be a few days queenless, and then either give them a capped queen-cell or a queen already mated. In this way you can prevent swarming, I think, as well as in any other way. An old queen will swarm quicker than a young one, and by following this method you get enormous swarms. I get, with a 10-frame Langstroth, 4 stories full of bees by June 17, and not one of those colonies ever yet cast a swarm. And while others are not getting a pound of surplus in my locality, they yield me 200 pounds of comb or extracted.

I can endorse what has been said about ventilation. You need considerable of it. For extracted honey, upward ventilation with a hole at the back of each side about ¾ of an inch is a good thing. It will keep them from clustering on the outside. I had one swarm at one time 5 stories high, and it was crammed full of bees at night so that they had a cluster as big as the size of a hat; there would be half a bushel on the outside. That swarm of bees filled 5 stories full of honey in 7 days, except the brood-nest. Three or four manipulations are practically all that is necessary up to the time of the honey-flow, and yet will entirely control swarming.

Pres. Dadant—In how many colonies did you try this?

Mr. Ferris—I had 25.

Mr. Rice—When you remove the queens and division-boards do you unite them?

Mr. Ferris—Yes. At the end of the flow I supply them with another queen besides the one they have.

Mr. Rice—What do you do with the old queens?

Mr. Ferris—I kill them. I have no use for queens that are over a year old.

Dr. Miller—You consider this practical, uniting two colonies?

Mr. Ferris—Yes. But really you only have one to deal with all the way through.

Mr. Baxter—I would like to be understood on this matter of ventilation. I have holes at the back of my hives also, but then that is simply to ventilate around the super and the top of the super. There is no draught from the lower part of the hive through the hive and out through this hole. I have an oilcloth over it which makes it perfectly tight. If there happens to be a hole in the cloth the bees will not store honey near that hole. You can see from that it is a detriment to have a draught through the supers. But I do believe in having ventilation around and from below.

Mr. Holtermann—I want to say, most emphatically, I have got at least 300 of these ventilators, only I think I have a better way than to bore a hole of that size. I have an opening of about ⅜ of an inch in depth right across the hive. I have no difficulty whatever in having the bees store honey next to these ventilators.

Pres. Dadant—It is a fact that where there is a hole in the oilcloth, even if there is a straw mat such as we use on top of the frames, there is a slight amount of ventilation there, and the bees put less honey at that spot.

Mr. Ferris—Bees that are queenless will go into the supers quicker than bees that have a queen. That is one reason why I advocate taking away the queens at this period, at the commencement of the honey-flow. You can control swarming at the commencement by giving the queen room to lay. But after the honey-flow commences they will enter the honey-sections more readily if they are queenless for the first 3 or 4 days than they will if they have a queen. I use no more bees to winter than you would winter ordinarily in a 10-frame hive.

Mr. McEvoy—Did I understand this gentleman to say that he uses 14 frames in a brood chamber, and the brood is all in the brood-chamber, and an excluder on?

Mr. Ferris—I always confine the queen below. In our locality we will have all the lower frames filled with pollen. I have seen it time after time; if we allow our queens to run at random through the hive without an excluder, they will store the first story full of pollen; the next will be a brood nest, and the honey on top of all.

Mr. McEvoy—I see by the papers that they all advocate large brood-chambers. I have only a medium-size, and yet I rear more brood than the most of them, because I go in, as a rule, for pretty near 18 frames. I put the queen above, and then I clip off at certain periods, and I leave that brood afterwards, and in 9 days it is capped. I let them swarm and come out with an immense lot of bees. From my point of view I don't want too much super-room, because I can get better ripened honey, and a finer quality, and less swarms.

Mr. Ferris—I get 30 frames of brood instead of 18 by June 15 to June 18.

Mr. McEvoy—I understand you to have had the 14 frames just below?

Mr. Ferris—No, I keep tiering them up until the flow begins; I let the queen have full range until the flow.

Mr. McEvoy—All right. I agree with you. That is the best thing I have heard yet.

Mr. Bartz—It is not advisable to mix the two matters, comb and extracted honey, the way you are doing. They are different matters, and require different treatment. I would like if each method were treated separately. Most bee-keepers can control increase when running for extracted honey, but the difficulty seems to be with comb honey.

Mr. Taylor—The trouble, I think, is that these people who control swarming are producing extracted honey, and those who produce comb honey cannot control swarming. That is the reason they don't discuss it so much.

Mr. Ferris—There is a question I want to ask. Take these supers, no matter what size section we use, and extracting frames, so that you can put an extracting frame all drawn out with nice white comb in it on the outside of each side of the super, and in these large cases put one in the middle. When you put that on, the outside will be filled first instead of the center of the hive, and then the super will be capped more evenly all over. Are there others trying that method in different localities?

Mr. McEvoy—Yes; that will work in all localities.

Mr. Ferris—We know our poorest sections are almost invariably on the outside of the super, and by getting those capped first we produce a small quantity of extracted honey and the bulk of it in comb.

Mr. Jackson—When you have both your queens in the bottom brood-chamber and allow them full range, how do you keep them apart? If your brood-frames drop, can they get together?

Mr. Ferris—My 10-frame hive has a solid partition that goes clear to the bottom, and they meet, so that when I put the one story on top of the other the division-boards sit tight, and I lay a cloth over the top.

Mr. Hatch—I think we are losing sight of one point mentioned here, the influence of drones in casting swarms. In my observation a colony will never cast a swarm unless there are some drones présent. Another idea was, we should look for drone-comb as well as queen-cups. I know one of the most sucessful bee-keepers that uses small hives, 12 inches square and 7 inches deep. He starts in the spring with one section and then puts on another section. He is very careful to have nothing but worker-comb in any of his frames. As the honey season advances he goes and pries the top hive off and he says, "There is some drone-comb; they are preparing for swarming." He scrapes that off and puts an empty section between them, and they are fixed for 10 days; that colony won't swarm. He didn't look for queen-cells.

Swarming is an indication of vigor, and strength, and power. The point is not to stop that, but to turn it in the right direction. Just merely controlling increase is not what we are after. We want to control it in such a way that we shall not lose our honey crop, or diminish it. I have tried a good many ways, and I have never yet found one solitary way that was controlling the increase but what was at the expense of the honey. I have tried the plan of caging the queen on 2 frames and she will sulk, and wear herself to death, and when you release her again it will only be a few days before she will be superseded. I have tried shaking the bees off onto comb, and onto full foundation, but with the same result. I would rather pay a man $5.00 a day to sit in my apiary and watch for swarms and hive them, than to try any plan of controlling increase that I have discovered yet.

Mr. Holtermann—I very emphatically oppose any method which forces the bees not to swarm. As Mr. Hatch has said, direct their energies in the direction of producing honey.

Mr. Hatch—Do you think it is possible for a colony to swarm without any drones being present in the hive?

Mr. Bratz—I have had them swarm without.

Mr. Holtermann—I don't think that any man is in a position to say that there is actually not a drone present in the hive.

Mr. Hershiser—I have had bees swarm quite frequently without drones when I set them out in the spring.

Mr. Aspinwall—I received a challenge from Mr. Taylor just now, that we hadn't heard from the comb-honey man. But as I am set down for a talk on the non-swarming hive I thought it best not to say anything. I am working on a different line. I agree with Mr. Holtermann in respect to the queen-cells, rudimentary ones that are new in the spring—the old ones are cut down. In the matter of drones I have tried with artificial comb, and that factor is one that produces swarms, but there are a great many factors that enter into and constitute the swarming impulse. If we remove one of them, that is a help; but in an apiary of a number of colonies drones will intermingle quite frequently, and for that reason drone-comb is a troublesome expense.

When you come to size it up there has been quite a conglomeration here. What is the young bee-keeper to do when he leaves this session? Next season will he adopt any of these plans, and can you guarantee him success? We want a hive, or we want a system, that will control swarming during the production of comb honey, and then we have got it without doubt for the extracted, and that is the point at which I am laboring. Dr. Miller has been for years working on a non-swarming system in producing comb honey. That is what we are after. We must not have manipulation that will tamper with the natural workings of the colony. So sure as we remove the queen, so sure as we cut the queen-cells out, so sure as we divide, we are placing the colony in an abnormal condition. Isn't that right, Dr. Miller?

Dr. Miller—Not fully.

Mr. Aspinwall—You have placed them in a desperate condition. The removal of the queen does not necessarily compel them to make as many queen-cells as when you have thwarted the swarming by removing the cells only.

There is another point in regard to controlling swarming that has been mentioned here, and that is in reference to the numerous methods set forth in the paper. No one of those methods prevents swarming to the fullest extent. It controls the evil or bane of bee-keeping to a certain extent only. As the writer admitted, there was no one system that could be wholly relied upon. You will pardon me for taking the stand that it must be done mechanically, as well as by the system adopted in connection with it. I know the bee-keeping world is working on another plan, and decries the principle of a hive that will control swarming. I recollect very well in the days of Quinby, Mr. Hazen, who experimented quite largely, lived in my neighborhood. Professor Cook refers to him as making an effort to control swarming by a non-swarming hive, and he offered such a hive to Mr. Quinby with whom I was well acquainted.

The matter of giving sufficient room is another factor, and that is what Mr. Hazen did, simply giving surplus room on all sides and the top, the hive in other respects remaining the same. I don't care how much room you give a colony so long as there are 6 to 14 combs, as the case may be; the bees may make rapid increase with a fertile queen or otherwise; when those combs are filled any outside appliances for room will not compel them to leave that brood-nest, until they are compelled to by the honey-flow. During that time the brood-nest is overcrowded, and the result, in many instances, no matter what the room is, such a season as last season, notably in my location, would be to have a great number of swarms. In my locality the impulse was something enormous, one-third of my queens being mated with black drones last season.

Dr. Miller—As to cutting off the cells, there was a time when I most thoroughly believed the cutting of cells didn't have any effect at all. Now actual practice and trial have made me change my views, until I know that in many cases the destruction of cells will stop the swarming. Sometimes it would be just the destruction of cells once in the season, and sometimes the second time would do it, other times not. There are so many exceptions to that case, and all I cared for was to have the actual truth known about it. Here will be 50 colonies and in all of them the cells will be destroyed; perhaps in 10 of them there will be no swarming, and perhaps in 40 of them there will be.

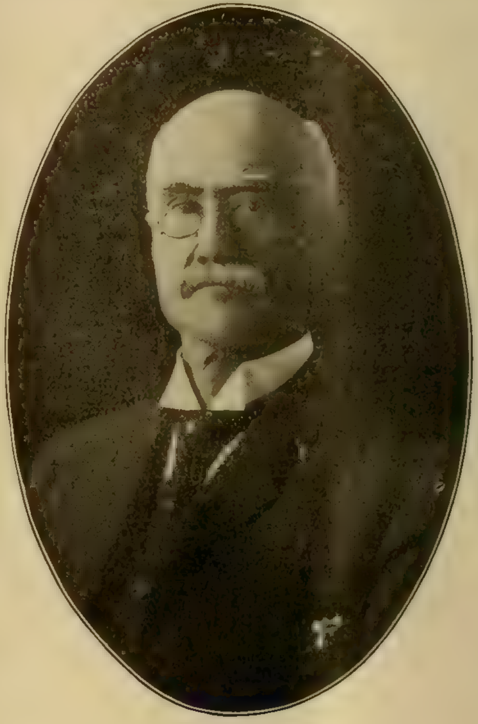
At this stage Mr. Aspinwall was requested to address the Convention on the subject of

WHAT HAVE WE TO HOPE FOR FROM THE NON-SWARMING HIVE?

Mr. Aspinwall—I am much obliged to Dr. Miller for bringing this matter up. Perhaps if he will look over the past and present he will see that other factors help out in this matter. The matter of drone-cells; the matter of hive-room and ventilation; all these are factors that enter into the control of increase. When I looked over the past and referred to Quinby's work of 1852, there was such an enthusiasm in reference to the increase of bees that Mr. Quinby said that the season had prospects, or something of that kind, or charms that the different beholders could never realize.

Mr. Langstroth said it was one of the most beautiful sights in the whole compass of rural economy. People were looking for swarms then. We are not today; it is the bane of bee-keeping. I doubt if there are half a dozen in this room who are keeping many bees, but have gone home at night thoroughly worn out with the swarming of the day.

I will merely say that the matter of controlling on my part is more with the hive than with manipulation. I tried these various methods some years ago. To show that there is a prospect of a non-swarming hive, I have been at work 18 years upon it, but many in the audience know I am an experimenter on potato machinery; I have been at it ever since I was 19 years of age, and the first invention required 21 years to produce. That is the potato planter that is used almost universally in the United States and abroad to-day So that the hidden things in nature are the things that come very slowly to us.



L. A. ASPINWALL.

In the matter of the non-swarming hive the question of room is one important thing, and while I will not give you the details of the hive fully, because of other patents that are to be applied for within a very short time, I will say that I use slatted frames inserted between the regular combs of brood, using usually 7 to a hive, sometimes 6, sometimes 5. Seven is about the best number, as I have already experimented with numbers from 5 to 8 or 10. My hive is made to hold 15 frames. In the month of May during apple-bloom, or rather during the bloom of the sugar maple and willow, the 7 combs upon which the colony is wintered are extended by adding one at a time, or 2, according to the strength of the colony. By the time apple-bloom is through, many of my colonies have 12 frames, most of which are filled with brood. Some times I have colonies that will fill nearly 14. Of course, my hives are packed so as to winter in the open air. This packing is left on until perhaps the end of the apple-bloom, sometimes earlier, according to the temperature. The tray is left on the last. Just at the opening of the main honey-flow these slatted frames are placed at once between and outside of the 7 combs, speaking for the large number I use now. That gives an outside ventilating space and standing room for the bees as well as inside. It is very important we keep the outside cool, where the sun strikes, by an intervening space. My sections are supplied with slatted separators the same as below. So I spread out over 15 combs—these include the 7 and 8 slatted frame—9 rows of sections. The bees are entirely devoid of the swarming impulse under this spreading condition. We all know that the cause of swarming is the *bees*. If we have a weak colony that does not cover the combs, it will not swarm. If we reduce that condition at the start we have deferred the swarming impulse somewhat. Then putting on 36 sections, when they are well started in that raise that super and put 36 more under, and we have 72 sections; and I have found by experimenting with lesser and greater number that 72 sections is necessary for a colony of 50,000 bees in order to prevent swarming. Now, you see we have made the placing of sections upon this hive compulsory to overcome swarming. I use full sheets of foundation. Should I stop one week in the honey-flow there would be one factor present itself, and would not prevent swarming, and that is the clogging of the hive with honey. There would not be sufficient room to give employment for all the comb-builders.

Many of you are aware perhaps that in the economy of the hive at a certain age the bees take to the fields. If there is an insufficient number of workers, the younger ones will leave for the fields perhaps a few days sooner than their natural time for leaving the hive. I know from experimenting that many young bees are drawn out of the hive at 12 and 13 days old, simply because we have forced the bees in that direction.

Now, the paper that was read was by the writer of an article in the Review in November, and he treated the subject of controlling increase largely by the feeding of the larval food. I think he has gone into it a little blindly, with all due respect to him, because the bees adapt themselves largely to circumstances in reference to working either for comb or extracted honey.

Now I have given in brief the outline of my system of working. I will leave the matter, and any questions that may be asked I will be very pleased to answer.

Mr. Bartz—Do you use a queen-excluder between your super and brood nest?

Mr. Aspinwall—No, I do not.

Mr. Bartz—Does the queen keep the combs supplied with eggs sufficiently during the time you use those slatted frames?

Mr. Aspinwall—She does.

Mr. Bartz—So that the brood-rearing does not increase with the use of the slatted frames?

Mr. Aspinwall—No, nor is there chilling of the brood. I have produced, from 35 colonies, this year an average of 128 sections filled with honey, and not one cell with brood.

Mr. Pettit—What was the thickness of those slatted frames?

Mr. Aspinwall—¾ of an inch in the super; 1½ inches in the lower compartment.

Pres. Dadant—For how many years have you tried this method?

Mr. Aspinwall—I have been trying it about 10 years, but it has been subject to many modifications.

Pres. Dadant—How long have you tried it on that many hives?

Mr. Aspinwall—My experiments have been on between 40 and 45 hives every year for 10 years, and this year the radical change of making all new hives took place. Next year it will be all new hives again, like those that proved to be the best last season.

Pres. Dadant—How many combs do you winter on?

Mr. Aspinwall—7.

Mr. Whitney—Do you extend them laterally?

Mr. Aspinwall—Yes. I am satisfied that the drones that are produced in the section-boxes, and even the extending of the brood-nest in the center, as I have known them where they have been crowded, is due to the crowded condition below; the queen can't possibly fulfill her duties. If you will examine colonies that have swarmed you will find in many instances patches of comb without an egg in. This is exceptional, however. That is because the queen has been crowded. She is then in the condition of the old queen that fails to fulfill her function in this respect, and the bees immediately by the condition of things start queen-cells.

Dr. Bohrer—Does your experience teach you that is the universal or general rule?

Mr. Aspinwall—I think it is universal. I have tried it on that many colonies for so many years, and found it invariably true in my yard.

Mr. Wilcox—You made the statement that you average 128 sections per colony. Is the honey-flow continuous from willow bloom to clover bloom?

Mr. Aspinwall—The willow bloom was very short this season, followed by half that number of days until apple bloom.

Mr. Wilcox—How long is that?

Mr. Aspinwall—We had clover about June 15 in our locality this year, and it lasted till July 23. I have no honey after that to speak of.

Mr. McEvoy—Did you feed any in that gap?

Mr. Aspinwall—No.

Mr. Wilcox—Did you feed, and how much, from the time the apple-bloom ceased until the clover-bloom began?

Mr. Aspinwall—I did not feed one ounce in the spring. My feeding is done in the autumn, and nothing after that, for the last 15 years.

Mr Wilcox—It is possible in your locality if you had apple-bloom that the bees store so much that it would carry them over that period, but it never is so in my locality. They would need feeding during that period, for the queen would stop laying, and they would begin to decline in numbers.

Mr. Aspinwall—That is true. I watch them, and those colonies that have the most I will interchange combs with sometimes. But I did not do it this year.

Mr. Ferris—Tampering with the queens will injure the colonies. I took 25 colonies and put them in a row; one row was made queenless and the next not so, but I found those that were made queenless for 10 days stored more honey than those that had the queen. This proves that taking away queens does not lessen the amount of honey. Those that have no queens will store just as much honey as those that have queens in the hive.

Mr. Holtermann—How long is your honey-flow?

Mr. Ferris—About the same as Mr. Aspinwall's.

SECOND DAY—MORNING SESSION.

At 9:30 a. m. Pres. Dadant called the convention to order, and called for the presentation of resolutions.

Dr. Bohrer moved, duly seconded, that a committee of 3 be appointed to examine the exhibits and report upon them. Carried.

Dr. Bohrer suggested that the chair appoint a committee of three on resolutions. The suggestion was accepted by the convention.

Mr. Holekamp moved, seconded by Dr. Bohrer, that a committee be appointed to consider suggestions that might be made as to changes in the constitution and amendments thereto. Carried.

The Secretary read a paper by E. D. Townsend, of Remus, Mich., on

HOW MANY BEES SHALL A MAN KEEP?

This is a broad subject, and I do not suppose that any two in this room would answer the question anywhere nearly alike. As the writer is a specialist, with bee-yards located in Isabella, Mecosta, and Kalkaska Counties, Michigan, where a hundred colonies is about all that it will pay to keep in one location, and where large numbers of bees have to be kept in small yards in some cases, as in our Kalkaska County yards, quite a distance from home, this paper will be from a specialist's standpoint.

I think we will all agree that a larger number of bees can be kept more profitably in a location that will support several hundred colonies in a single locality, than if they had to be scattered out 100 in a place, as most locations in Michigan compel one to do.

Now just a word about the man: The writer will expect that he has made a financial success with at least one yard, and has learned short cuts, so that when he gets his honey ready for the market he can take his pencil and figure out all his expenses, so that if he had hired the work all done there would be a profit of, say, $300 or $400 from the one yard, for you will see at a glance that quite a percentage of the additional yards one adds will have to be managed with hired help; for it will be folly to think of more yards until one could make a financial success with one.

Now we will suppose our prospective experimentalist is a suitable person. I would have him add yards just as fast as his experience will admit. I do not think there are many in the business who would be capable of adding more than one yard each year, while many would better not try to add more than one every other year, until the necessary experience is attained in managing out-yards; then this can be kept up until the desired number is reached. The writer's practice is to establish about 3 yards near home, then go to another location where the pasturage is of an entirely different nature, and establish more yards, so that if one locality should fail to produce he will be quite likely to get a crop in the other locality. This puts the business on a sound basis. To be sure, the honey produced in the yards some distance from home costs a little more to produce, but the assurance of having a crop in one or the other location every year amply pays for the little extra expense in railroad fares, etc.

Then there is another point of importance, and that is, if you like you can keep bees with a profit anywhere in Michigan, so that if one is located where the territory is occupied, all he will have to do is to take a train and go where there is unoccupied territory, and establish yards in this way. One does not have to change his place of residence for the sake of keeping more bees. The writer has kept a yard of bees of less than 100 colonies 50 miles from home for 2 years with only 8 visits during the 2 years, and harvested $1,200 worth of honey during that time, and at present has 200 colonies in Kalkaska County, 105 miles from home, that have been worked successfully for the past 2 years, so what I write is from a practical bee-keeper's standpoint.

E. D. TOWNSEND.

In the above I admit I have wandered somewhat from the main subject, and will excuse myself by saying that I am going to tell you how many bees I shall keep under the conditions named above, for you will understand that under some other conditions one might keep more or less bees as circumstances would admit, and now for the number of colonies I shall keep.

Here at Remus, where white clover and fall pasturage is the source of our honey crop, we have 3 yards of 100 colonies each; this is all we are planning to keep here; then in Kalkaska County, where red raspberries is the source of our surplus, we have 200 colonies; these will be increased to 3 yards, and it looks now as if this Kalkaska locality will support more than 100 colonies in one yard. In this case our 6 yards may contain 700 or 800 colonies, although our number now is only about 500. With this number of colonies in two locations, where the honey source is of an entirely different nature, one feels quite sure in depending upon the bees for a living, and a little extra for a rainy day, without burdening himself with many more, as some are doing. E. D. TOWNSEND.

Mr. Hilton—I am interested in the paper by Mr. Townsend, because he is practically a neighbor of mine, living in an adjoining county, a man I am very well acquainted with, and a man I very much admire. He has had experience with out apiaries, and so have I, and his experience with my own experience, with which I am familiar, I can readily come to the conclusion that very much depends upon the environment of the man, as to how many out-apiaries he shall keep, or how many bees. Mr. Townsend's environment is of a character that he can give his unlimited and unstinted time, if necessary, to his apiaries and to his business of bee-keeping. Mine are of that character that I can hardly leave home for 24 hours. In fact, in the employ of the Government as I am, I am not permitted to be absent from my office to exceed 48 hours without permission from Uncle Sam.

Now the question of these out-apiaries depends upon the environment of the man, and the ability of the man as a bee-keeper. Most of those within the sound of my voice are very naturally adapted to the business, or you would not be here; and those of us that are adapted to the business of bee-keeping can take it up to a successful issue if we can apply ourselves to it. In the first 15 years of my experience as a bee-keeper I made quite a success of the production of honey in home and out apiaries. As other conditions bound me tighter to my office and home surroundings, my bee-keeping outside of my home became less remunerative, until I was actually obliged to abandon my out-apiary. The only bees that I have to-day are those in my little home-yard in connection with my home and garden, and the other things around my immediate family surroundings. So that the question to be answered, as I see it, must depend very largely upon the man and his ability to manage and his manner of management.

Now, the paper will strike some of you as very strange when Mr. Townsend says he has kept bees 50 miles from home for 2 years and has only seen them 8 times. Mr. Townsend does this, and successfully. I never did it—I never knew enough to do it—and I give Mr. Townsend credit for knowing a great deal more than I do, because he does it. Just how he does it I am not in a position to state. That he intends to do more of it there is no question of doubt.

Mr. McEvoy—Is it all extracted?

Mr. Hilton—No, sir. He produces both.

Sec. Hutchinson—That yard managed that way was all extracted.

Mr. Hilton—I think it was. Mr. Townsend says we are not obliged to change our home surroundings to keep out apiaries, provided they are of such a character that we can give the necessary attention to the out-yards when it is necessary. So that we can take into consideration one fact, that if we are the right person, and if we can adapt ourselves to the right localities and conditions, we can have about as many out apiaries as we want, provided we know how to manage them.

Dr. Miller—I don't think there are very many who follow the advice of the writer, but it is worth while for us to know what an exceptional man can do in an exceptional way, and so I value the paper.

Mr. Baxter—I take for granted this paper was intended for the specialist—the man who makes bee-keeping his sole occupation—and I don't see any reason why a person in that capacity, if he has the necessary ability, could not manage an apiary like that and make money out of it.

Mr. McEvoy—I don't think he tells you in the paper just how he manages the business to control it so.

Dr. Bohrer—I think the ground was pretty well covered by Mr. Hilton. I found I could keep as many as 100 colonies and upwards in one yard in Indiana, but my immediate neighbors did not have as many of them. There are probably not 500 colonies of bees in the county where I live now, and I might keep 1,000 or 2,000, but if each neighbor on each side of me was to start up with so many colonies, we probably would exhaust the resources. We don't know what it will be in our country. Alfalfa is becoming more abundant every year, so that it is not a settled question, and cannot be at any time, yet I am willing that all of my neighbors, if they will take good care of their bees, should keep a few colonies to get honey for their home use. If they do not intend to take care of them, and will allow foul brood to get in amongst their bees, and will keep a low grade of stock at that, I do not think they ought to be allowed to keep any. The scientific bee-keeper will always find elbow-room in such portions of the country as are adapted to the production of honey. The specialist has to look out for a territory, and I can not tell him where to go. If he wants to come down to Rice County, Kansas, I can point him to an excellent place there where they have good climate, lots of Alfalfa, good looking women, and splendid men.

Mr. Holtermann—I am a specialist in bee-keeping, and in regard to the question of how many colonies of bees a man should keep, I agree with the idea first of all that if a man won't keep them properly he would better not keep them at all. In the next place, as to how many the specialist shall keep, I am finding a difficulty which I am unable to overcome and produce first-class honey, and that is, that at a certain stage in the honey-flow in the average locality there comes a time when we shall extract. Now if those bees are run in the best way, the honey is all ready to extract at about the same time, and the difficulty I find is to extract all at the same time. I have got up to something like 340 colonies of bees, and am wintering 339, beginning with 300. I have tried to do my work quickly, intelligently, and expeditiously, and I have at different times taken out from between 5200 and 5300 pounds of honey in a day, and yet it puzzles me to overcome that difficulty of dealing with those colonies at about the same time. I have used 6-frame extractors, and I am selling them now and taking an 8-frame; I have ordered a gasoline engine, and I am having made an uncapping machine. I am trying to increase the speed of extracting, but the greatest difficulty which confronts me is that of dealing with those colonies at that time quickly; and unless I can succeed in increasing my speed of extracting, I can't increase much beyond the 300. I have read Mr. Townsend's system and method, and I may be wrong, but I am convinced that there are very few indeed that could carry on out apiaries and keep bees in the way in which Mr. Townsend seems to be successful; and I think it would be a mistake for bee-keepers, and for the welfare of the people at large, to let the idea go out that people can conduct out apiaries and run them successfully, except under very exceptional conditions, by visits of that limited number in a year.

(Continued next week.)

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Making Honey-Vinegar

I see occasional mention made by you and others of making vinegar from unsalable honey. Will you kindly tell me your method of making the vinegar. MASSACHUSETTS.

ANSWER.—If you dilute honey with water, and keep it long enough, you can hardly prevent it from becoming vinegar. You can take 2 pounds of honey for a gallon of vinegar, or you can dilute honey with water till it is only strong enough to float a fresh egg so that a patch of the shell about as big as a silver dime shall float out of the water. Then use the same means you would with cider for vinegar, letting it stand exposed to the air, keeping out the flies with mosquito-netting. Standing in the sun hastens the process. It takes a year or two for it to "make."

◆

Growing Catnip and Sweet Clover—Salt and Sulphur for Foul Brood

1. They must be sown in the fall, and the sweet clover must be covered. It will not grow in just any old way, at least not for me. If I had known this a few years ago I could have had a good stand on several acres that I now have to plow and re-seed, for although I have 800 acres of land I do not want a poor stand of sweet clover. *It is too valuable*—the sweet clover I mean.

2. I had foul brood in my yard last season, and I put salt and sulphur into every hive and around every entrance, and I can not find a single cell of it now. If I do later I will report; but it may be that it was not the salt and sulphur, for I did some painting also. If it proves a cure, to which would you advise me to give the credit?

I will tell you why I do not ask as many fool questions as I used to do. It is because I read the American Bee Journal, and I also have some bee-books, one of which is called "Forty Years Among the Bees." NEBRASKA.

ANSWERS.—1. You are quite right that there are some ways in which sweet clover may utterly fail to make a stand. You may be right that it is better sown in the fall, especially in your locality, but I doubt whether it would fail here if sown in the spring, provided conditions are all right. The one thing that causes failure is having the ground too soft, for then it heaves in winter. The most of it here grows along the roadside where the ground is very hard and the seed tramped in. Perhaps it might be all right in soft ground if covered, as you say; but it must be covered deep enough so it will not heave in winter.

You talk as if you had some acres of ground occupied with sweet clover. Please tell us more about it. What do you use it for? If for forage, do you use it green or dry? How much ground have you occupied with it?

Do you seed down good land to be occupied entirely with catnip? and is it of any use except for the bees?

2. The probability is that neither the salt nor the sulphur was a cure, nor yet the painting. It is nothing new for foul brood to seem to disappear entirely for a time when a good flow of honey comes, but in such case it is likely to reappear. If yours was genuine foul brood, and does not appear again, be sure to report.

Better to ask "fool questions" than to remain in ignorance; but you are taking the wise course to get all you can from the books; and when you've done that, there's still room for plenty of questions.

◆

When Do Bees Swarm?—Other Swarming Questions

1. About what time do bees generally start to swarm?

2. If a queen and drone trap is put on the hive, a swarm issues, and the queen gets in the trap, but manages to find her way back, or I put her back, how soon will they try again?

3. If I put part of the bees in an empty hive without a queen, will they rear one? MINNESOTA.

ANSWERS.—1. It depends upon locality. In Minnesota likely about the time white clover gets under good headway, and from that on. If any one can give a more definite answer, I'll gladly yield the floor. It will be about the time the first queen-cell is sealed.

2. Generally the next day; possibly not till 2 or 3 days; possibly not at all with that queen, for she may be badly treated by the bees, causing her death if she doesn't swarm to suit them (but I wouldn't like to be too positive about this), the first virgin that emerges issuing with a swarm something like 8 days after the time of the first swarming.

3. Better not try it. The bees will be likely to desert unless you imprison them for a couple of days, and if they do rear a queen she will not be likely to be of the best; and no matter how good she is, it will not be far from 3 weeks before she gets to laying, and the force will be pretty well reduced and discouraged. Give them at least a mature queen-cell.

◆

Some Questions on Management—T-Supers

1. The past winter was rather disastrous to bees in this vicinity, and has left us with a good many empty combs; and while I want some increase to occupy them, I have some hives that I don't want their forces divided. If I retain their queens should they swarm, and let the bees return to their hives without the queens, then when I hear their young queens piping I destroy all queen-cells, will they be likely to swarm again? They are in 10-frame hives, and I have given them a 10-frame super on top. Do you think they will be likely to swarm?

2. I wish to save their old queens, and have in mind taking other hives, and by taking 1 frame with queen and putting into new hives and shaking or brushing the bees into them, and putting the hives with the brood on new stands and giving them these queens, will they accept them at once, or should I wait a day or two?

If on the 8th day after swarming a queen is hatched, and several days should ensue when it was unfit to go through and destroy queen-cells, or they to swarm, would not several queens be hatched out? Would there not be fighting to a finish? Some one has said that the worker-bees would guard the cells and not let them hatch if they contemplated swarming. Don't that sound a little "fishy?" Queens are hatched by a process of Nature. Can they retard that process?

4. I have heretofore been at a loss how to save queens for future use. To show my ignorance I will ask: How do queen-breeders manage to get their queens with accompanying bees into shipping-cages? Do they take the worker-bees in their fingers?

5. I had an extra queen about May 1 that I wished to save. So from one of my strongest colonies I took 2 frames of brood and put them on the old stand, and filled up with empty combs. I put the old hive with queen on a new stand. I supposed many bees from the old hive would return. As they did so, they fought till fully a pint of bees were killed. I supposed the queen which I put on top of the brood would be killed (she was in a shipping-cage). After they were through fighting I opened the hive and found the queen liberated and all right. Was such action to be expected under the circumstances, or was it a freak?

6. I have seen much discussion between you and others about the T-super. I have been using a T-super for years, and will not use any

other that I have ever seen. I have never seen it advertised in stock. It was originally gotten up by Elvin Armstrong, about 25 years ago, and was favorably spoken of by the American Bee Journal at the time. He was then engaged in the bee-supply business, but soon quit. I have always had to send a sample to the manufacturers to get them made. When put together to go on the hive, I could throw them over a fence and they would not come apart. I would like to have you see one. It may not suit you, but it suits me. I wish I could draft it and send you a draft or describe it, but I can do neither. I would send you a sample all ready put together with sections less the starters if you will pay the express charges. I have had to pay 50 cents expressage where I sent samples. They are put up for 8-frame hives, but I use them indiscriminately for 8 or 10 frames. IOWA.

ANSWERS.—1. As there would be only the one queen in the hive, and no possibility of rearing another, it would be suicidal for the bees to swarm. We have had accounts lately of millionaires committing suicide, but don't expect such foolish things of bees, but there have been reports of exceptional cases when the bees didn't seem to have any more sense than millionaires. For all practical purposes, however, it may be said that when a virgin is in a hive with no queen-cells, and nothing from which a queen can be reared, there will be no swarming.

2. They will accept them at once, as the queen and bees belong together and have never been apart.

3. No, I don't think there is anything "fishy" about workers standing guard over cells to prevent the free virgin from destroying them. You can satisfy yourself on that point by a little observation. When a second swarm is contemplated, if the weather delays it, the idea of further swarming may or may not be given up. If it is given up, then the cells are no longer guarded, the virgins that have been quahking in the cells are allowed to emerge, there is a fight to a finish, and all immature queens are destroyed in their cells.

4. You have lots of company in your ignorance. Yes, you cage the workers with your bare fingers, pushing them into the cage through the little round hole. Take the cage in the left hand, find a bee with its head stuck in a cell helping itself to honey—partly because it's easy to get such a bee, but also because such a bee is generally of the best age to stand confinement—grasp it by both wings, push its head into the hole, and it will generally run into the cage without any ceremony. Some, however, put it in tail foremost, pushing upon its head to make it go in. Then the forefinger of the left hand keeps the hole closed till another bee is caught.

5. I'm not sure that I've seen it ever mentioned in print, but I think such a proceeding as you mention is the rule rather than the exception; only I think it is unusual for so many bees to be killed. I have not paid much attention to it of late years, but years ago, when I gave a queen somewhat in the way you describe, I was surprised to find a good many times a number of dead bees carried out of the hive. My final surmise was that there were two factions, one for the queen, and one against her. I'm sure about the fact of the bees being killed, but I may be wrong in my surmise.

6. I think I have among my accumulation of all sorts of things a super such as you describe. I have never yet seen any variation that seemed to me as good as the simple super with loose T tins. If I should begin paying carriage on samples of things that are offered me, I'm afraid it would "break" me.

Reports and Experiences

A Heavy Honey-Flow

Bees are doing fine. We are having a heavy honey-flow

The American Bee Journal gets better every week. T. L. SHAWLER.

Silver City, Iowa, June 7.

Working on White Clover

White clover is in full bloom at present, and bees are doing good work on it.

Nisbet, Pa., June 14. GRANT STANLEY.

Season Disastrous to Honey-Flow

The season here is disastrous to the honey-flow. The dry weather early in the spring retarded the clover growth until we have but very little, and it is so cold now that the bees can work but little. GEORGE M. RUMLER.

Mohawk, Ind., June 13.

Should Have a Full Honey-Flow

My bees wintered in the cellar. I did not lose a single colony. All have queens and are populous. White clover is coming on fine. Soon sweet clover will be in full bloom. What few basswood trees we have here are showing up first-class. We ought to have a full honey-flow. W. A. WISEMAN, M. D.

Camargo, Ill., June 7.

Killed by the Frost—Peach-Bloom for Bees

The late freeze killed at least 75 percent of the strawberry crop. About 95 percent of the peaches are killed. All of my 100 Japan plum-trees were white with bloom, and it "fixed" nearly every one of them. About 100 pear-trees were in bloom, and it killed nearly all the Duchess and the delicious Tyson, but I'll probably get 20 percent of a crop of Kieffer, Garber and Wilder Early. I had 40 apricot-trees with apricots already formed, and it "fixed" all but a few in the very top of the trees.

I have been waiting several years for a peach crop, and only for the frost the prospect was good for 500 bushels or more. I don't expect now more than 20 or 25 bushels—probably not that much, and I may get 50 bushels of Keiffer pears, and 2 or 3 pockets full of apricots. However, crying over spilt milk will not feed the hungry, and I still have much to be thankful for. There are none of us sick. We are all enjoying life as usual. We have 7 cows, lots of milk, butter, and several yearlings and little calves; some hogs, a lot of full-blood, fine strain of Bradley Barred Rock chickens, about 150 little chickens, a lot of hens sitting, and then there are the bees. True, my wife thinks I am feeding them more than they are worth, but as raspberry is almost ready to bloom, I think I won't have to feed any more, except 3 or 4 weak cotonies.

I never saw bees in such need as they have been this spring. I have had to feed nearly every colony to keep them from starving and to keep up brood-rearing, but some will be ready for supers in a few days if the weather is favorable, as we have lots or both wild and tame raspberries here. There are lots of wild crab-apples in the woods near here, which are now in full bloom, and the dandelions are abundant in the pastures and are now in bloom. The wind has been blowing so hard during a good part of May so far, that the bees could not work well even on warm days. For 2 days the peach-blossoms gave a flow of honey almost like basswood. I'll agree with Mr. Hasty on peach-blossoms. Peach and pear bloomed together, but the bees sung a much louder song in the peach-trees than in the pear-trees. And the Japan plums that were also in bloom, got but very little attention from the bees during those 2 good days of peach-bloom. The cherries were also in bloom, but showed very few bees. The peach-trees were just humming with them. J. E. JOHNSON.

Williamsfield, Ill., May 14.

An Experience With Bees

First, I am a locomotive engineer. So you see a farmer is not the only person who can keep bees and produce honey. I started in the spring of 1903 with 1 colony in a Root double-story chaff hive, and 1 in a store-goods box. These gave me 4 good colonies and 140 pounds of honey that season. But, of course, the honey was not all in as good shape as A No. 1 should be, but it was all stored from flowers, and no sugar syrup. These 4 colonies I wintered, and the next season increased to 7, and produced 285 pounds of A No. 1 honey and 100 pounds of unfinished sections, and all, or nearly all, had enough in to use. All the money I ever invested for supplies was $10. I bought 3 queens, and killed others to make places for them. I could have had several more colonies of bees last summer, but did not want them. I make all my own hives, 8 and 10 frame Langstroth. The first year I had lots of bees hanging on the front of the hive, but last summer I never had a pint of bees hang out. I have my super arrangements fixed so that I can give them lots of ventilation by simply raising the cover a little. I expect to make my bees give me 100 pounds of honey (I speak of section-comb honey) next summer.

I live in a town, with neighbors on all sides not 200 feet away. I take the American Bee Journal, and have "A B C of Bee-Culture" and "Langstroth on the Honey-Bee."

Now for a little of the other side: I had a colony that swarmed July 6. I hived the bees on the old stand, and set the mother colony about 20 feet away. They did not have any queen-cells, but lots of brood and eggs. In about a week I looked and still no queen-cells and no eggs. So I sent to a breeder for a queen, and July 17 I introduced her in the cage she came in, with the candy method, and she was killed Aug. 12. Still no eggs and no brood. I introduced another queen, leaving the cage lie on top of the frames 24 hours before I gave the bees access to the candy. August 18 she was not yet out of the cage. I released her and all seemed to be all right, but on Aug. 21 I could find no queen nor eggs. Then on Aug. 22 I united them with a nucleus having a laying queen. This I did in the following manner:

I closed the rebels and set them on top of the nucleus with wire-cloth between for 24 hours. Then I made a small hole in the wire and let them work down and out through the nucleus. They killed the queen and almost all of the bees of the nucleus, and started cells on larvæ of the nucleus. September 9 a friend gave me a good, strong nucleus with a good queen. So I shut the rebels up and set them away for 3 days and put the nucleus on the stand. Then I took the rebels and shook all the bees off their combs on the grass and let them run into the nucleus. They fought some, but on Sept. 12 I examined them and found the queen in the hive, also 3 queen-cells, but no eggs, as this queen had stopped laying. I pinched the cells out and thought all would be well, but Sept. 16 I looked again and the queen was gone, and 5 more cells started. I pinched them out and tried to introduce another queen, but they killed her. All this time there was not an egg laid in this rebel colony; so don't say laying worker. I left them until Oct. 30, and still there were about 2 quarts of bees left. These bees carried pollen and honey nearly all the time, but not a single egg or brood of any kind, so I introduced a dose that they all took—about 1 tablespoonful of sulphur.

Now, will some one explain what was wrong? I would like to see an answer in the American Bee Journal. LEWIS.

Jersey Shore, Pa.

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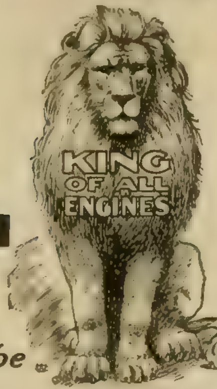

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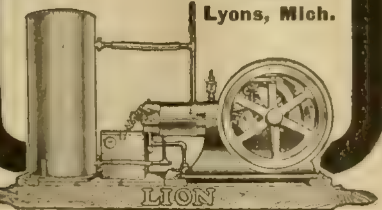

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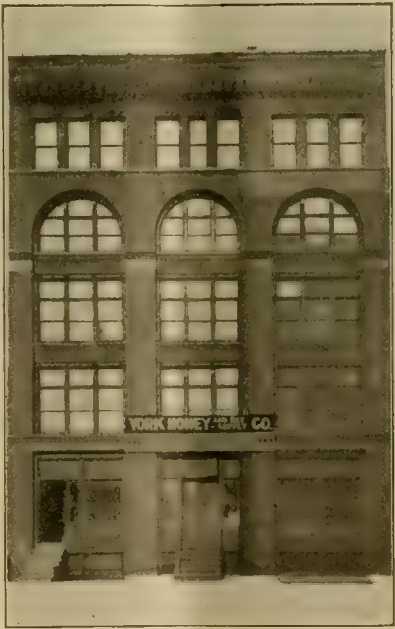

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We are also in the market for Fancy Comb and Extracted Honey. Correspondence solicited

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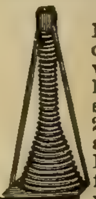

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Tin 4-in. Smoke Engine 3½-inch 3-inch 2½-inch 2-inch Wonder
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Send for same.

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For prices, refer to my catalog, page 29.

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OHIO
Office and Salesrooms, 2146-48 Central Ave. Warehouses: Freeman and Central Aves.

Honey and Beeswax

CHICAGO, June 5.—The honey market is in about the same condition as when we quoted last. Very little call for either comb or extracted. No. 1 white comb, 15c; other grades, 10@14c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c. R. A. BURNETT & Co.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, May 12—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, June 11.—There is no new honey arriving in this market as yet, and so few lots of old honey sold that we cannot establish any price. Some little lots of Southern extracted honey have arrived in barrels. We quote: New Southern honey, light amber, 6½c; amber, 6c. Beeswax selling freely, 29c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
HILDRETH & SEGELKEN.

CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, May 31.—The honey market here is bare, no new honey in market yet. The market is about $3.25 per case on fancy white. Extracted, 5½@6c. On account of the warm weather and heavy receipts of fruits, the inquiry for honey is dropping off, but we believe with the advent of new honey there will be a good demand for same. C. C. CLEMONS & Co.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c. Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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Untested	$0.75	$4.00	$7.50
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Tested	1.50	8.00	15.00
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Mr. A. W. Yates and Queen-Cell Cups

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

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1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

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Contents of this Number

Illustrations—

Apiary of A. W. Yates....................1st Page
Gill, M. A. 561
Segelken, Henry.................... 560
Side-and-End Frame-Spacer.................... 559
White, Frank B.................... 554
Yates (A. W.) and Queen-Cell Cups........1st Page

Editorial Notes and Comments—

British Standard Frame.................... 553
Caucasian Bees in Germany.................... 553
Honey-Dew Without Aphides.................... 553
Putting Wire-Cloth on Queen-Cages.................... 553
Sugar for Queen-Cages in the Mails.................... 553

Miscellaneous News Items—

Apiary of A. W. Yates.................... 554
Committee to Spend League Money.................... 554
Deaths from Bee-Stings.................... 554
Fifth Annual Report of Illinois Bee-Keepers' Association.................... 554
"Puck" Was Fooled—Not the Bees.................... 554

Biographs of Beedomites—

Gill, M. A.................... 555
Segelken, Henry.................... 555

Contributed Articles—

Chrysanthemums and Perfumery Offered with Comb Honey.................... 556
Prevention of Swarming When Working for Extracted Honey.................... 555

Southern Beedom—

Bee-Keeping in Georgia.................... 556
Bitter Honey.................... 557
Reports and Prospects.................... 557
Unsealed Brood On Outside of Brood-Nest to Prevent Swarming.................... 557

Our Sister Bee-Keepers—

Acklin's (Mr.) Death.................... 557
Caring for Italian Queens.................... 557
Honey-Paste for the Hands.................... 557
"Southern Beedom" Sister.................... 557
Work-Shop Struck by Lightning.................... 557

Mr. Hasty's Afterthoughts—

Do Drones Fly Further than Workers?.................... 558
Facing of Hives.................... 558
Father Dzierzon and Longevity.................... 558
Mating of Queens in House-Apiary.................... 558
Relation of Swarming to Comb-Surface.................... 558
Requeening.................... 558

Canadian Beedom—

Bee's Acute Sense of Smell.................... 559
Side-and-End Frame-Spacer.................... 558

Convention Proceedings—

Can the Tariff on Comb Honey be Tinkered to the Advantage of the United States Bee-Keeper?.................... 560
National at Chicago.................... 560
Short Cuts in Bee-Keeping.................... 561

Dr. Miller's Question-Box—

Breeding from Good Queen, but Impurely Mated.................... 562
Why Prefer Italians?.................... 562

Reports and Experiences

Bees Working Vigorously.................... 563
Capping-Box.................... 563
Colonies Strong, and No Swarming.................... 563
Cutting Section Foundation.................... 563
False Indigo.................... 563
Frost and Drouth—No Honey.................... 563
Most Extraordinary Season.................... 563
No Swarming Yet—Hope Varies.................... 563
Perhaps a Superseded Queen.................... 563
Prospects Good for Honey.................... 563
Timothy Chaff for Packing Bees.................... 563
Too Cold and Dry for Bees.................... 563
Transferring Larvæ.................... 563

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CONVENTION NOTICE.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9 and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

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We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

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Swarming Done Away With

The illustration shows one of the A. K. Ferris hives under process of manipulation. Every bee-keeper will be interested in reading about these hives arranged according to the Ferris' system for the Prevention of Swarming for Comb Honey Production.

The Non-Swarming articles by Mr. Ferris and Mr. G. M. Doolittle are proving exceedingly interesting. This great series is fully illustrated and will be continued throughout the remaining issues of 1906.

Among our other regular contributors are Mr. J. A. Green, Dr. C. C. Miller, E. W. Alexander, and many other bee-keepers of note.

No bee-keeper who will take time to look through one number of **Gleanings in Bee Culture** can satisfy himself that he does not need this "Journal of Profit."

We make it easy for you to give **Gleanings** a thorough trial; here's the offer:

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If you will send in your remittance before the back numbers from April 1st, in which the introductory articles on the Non-Swarming series have appeared, are all gone, we will include these free of charge.

Gleanings in Bee-Culture
MEDINA, OHIO

SECTIONS

Sections are in great demand at this season of the year. We are running full capacity, but can hardly supply the call for No. 1 Sections of all sizes.

Place orders at once, or you are apt to be disappointed. We have a very large supply of No. 2 grade of Sections. These Sections are as good as some offer for No. 1. Not being snow-white—but having a tinge of cream grades them No. 2. Give this grade a trial this season. It will cost you 25c a thousand less.

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We are prepared to furnish the Alexander Feeder. We make them 19 inches long so they may be used with either an 8 or 10 frame hive. With a 10-frame hive they will project 3 inches beyond the hive for feeding, and the block may be laid crosswise of the feeder or be cut off as preferred. With the 8-frame hive the feeder projects 5 inches and the block lies lengthwise. We soak the feeders in oil to prevent the feed from soaking in. Price, finished, including block, 25c each; 10 for $2; 50 for $9.

GERMAN BEE-BRUSH

Some months ago Mr. R. F. Holtermann called our attention to a bee-brush which he received from Germany, made of genuine bristle or horsehair. He had used one a whole season, washing it out often, and it appeared to be as good at the end of the season as at the beginning. He considered it so far ahead of anything he had ever seen or used that he wanted no other. We concluded if it was so good for him it must be equally good for others. We are now provided with a stock which we offer at 25 cents each; by mail, 30 cents. The bristles are black, and about 2 inches long, extending 8 inches on the handle. Made of white hair it would cost 5 cents more.

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CHAS. DADANT

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GEORGE W. YORK, Editor CHICAGO, ILL., JUNE 28, 1906 Vol. XLVI—No 26

Editorial Notes and Comments

Sugar for Queen-Cages in the Mails

During the many years that we have had to do with mailing queen-bees, we have almost invariably found that queen-breeders put the right kind of sugar-candy in one end of the queen-cages in which they mail queens. However, occasionally we have received queens from breeders who evidently are somewhat new in the business, and do not understand the manner of making the right kind of queen-cage sugar-candy. Any of the standard bee-books give in full the method of making this candy. Of course, no up-to-date queen-breeder would be without all of the standard bee-books and bee-papers if he wishes to be up to date in his line of business.

We have received queen-cages that evidently had put in them simply granulated white sugar, for, by the time they arrived at this office there was about as much of the sugar at one end of the cage as at the other. In fact, the sugar and bees were pretty well mixed up. It was possible, after the card was taken off the cage, to shake practically all the sugar through the wire-cloth covering. It would not be surprising if many queens were lost in the mails when sent with such food.

Any bee-keeper contemplating going into the queen rearing and mailing business should get all the information possible, so as to conduct every detail of the business in the right way. By so doing frequent losses of queens may possibly be avoided.

Honey-Dew Without Aphides

Mr. C. P. Dadant, of Hamilton, Ill., sends us the following concerning his recent experience on this subject :

> Mr. Editor:—In an article which I sent you, I mention the fact that the bees were harvesting a sweet substance from the acorns on some of the oaks. I have since mailed you several twigs showing a good size drop of "honey" on some of the acorns. This substance has been produced so freely on one tree that a number of drops of it have fallen to the sidewalk, and the bees are now busy on this tree from early morning till night.
>
> None of the so-called honey-dew can properly be called by that name, for the reason that it does not settle like dew from the atmosphere. In most cases, the sweet substance gathered by bees is produced by aphides or plant-lice, which eject it from their bodies, when it falls in the form of a very fine spray. This is the most common form of honey-dew.
>
> In the present instance, however, there is no insect or louse of any kind, and the exudation from the oaks comes during a cold night following a warm day. This exudation is most profuse on the acorns, but the use of a magnifying glass reveals it also on the stem below and above the acorn. This is evidently the product called "miellee," by Bonnier. The most plausible explanation that can be given of this phenomenon is that the cold of night shrinks the tender shoots of fresh growth, and that the sap which is ascending becomes unable to extend to the leaves on account of the contraction of the tissues, and exudes through the pores of the wood, by channels called "nectariferous tissues." We have often seen the bees working on the acorns during cool summer days, but have never seen the sweet exudation in so large a quantity as in this instance. The liquid is very sticky, and has a slight twinge of bitterness with the very plain taste of oak-bark.
>
> For years discussions have taken place as to whether honey-dew was a real product of plants or whether it came through plant-lice. This instance proves that both views are correct, according to the circumstances. The aphides' production is much more common than the sap exudation.
>
> C. P. Dadant.

The samples sent by Mr. Dadant are very fine indeed. The exudation is plainly visible to the naked eye, and also in sufficient quantity to taste easily. It is quite sticky to the touch, and, as Mr. Dadant says, has a distinct oak-barky flavor.

Caucasian Bees in Germany

More than a quarter of a century ago Caucasian bees were discussed in Germany, and Otto Luhdorff gathers up, in the American Bee-Keeper, some of the testimony concerning them. All united in pronouncing them phenomenally gentle. They were said to be much given to swarming, 5 colonies sending out 19 swarms, and 100 queen-cells in a single colony of moderate strength was nothing difficult to find. They varied much in color, there seeming to be a light and a dark variety. They were good defenders against robbers, and their activity indicated that they were good gatherers, but on this point testimony seemed lacking. Mr. Luhdorff concludes by saying :

> There are no more Caucasian queens offered to-day in the bee-papers or catalogs in Germany. They seem to be forgotten, although in 1889 the papers were full of them. The principal races offered in Germany to-day are the common German black bee, the Italian and the Carniolan. The Italian and Carniolan queens seem to be at the head of everything, and liked the best.

The British Standard Frame

At a late meeting of the British Bee-Keepers' Association, after a full discussion, the standard frame, which has been in use in England for years, was unanimously endorsed. It is 14 inches long and 8½ deep, outside measure. The Langstroth frame—the one in most common use in this country—is 17⅝x9⅛, therefore 35 percent larger than the British standard. The 10-frame Cowan hive has the capacity of a little less than 7½ Langstroth frames.

Putting Wire-Cloth on Queen-Cages

We notice that some queen-breeders are sending out cages with light-colored wire-cloth instead of black. Perhaps they had not thought of it, but it is almost impossible to see the queen through the light-colored wire-cloth. We do not know why any queen-breeder should use anything but the black wire-cloth. Perhaps those who use the light-colored can give a good reason for so doing.

Here is another thing that needs a little attention : In cutting the wire-cloth for queen-cages we notice that some queen-breeders are rather careless, and cut it wider than the cage. In handling such cages in the mails, the edges of the wire-cloth, where it is thus cut too wide, extend over on either side of the cage, and are quite sharp to the fingers. If anything, it would be better to cut the wire-cloth slightly smaller than the cage so this objection might be avoided.

We have also seen queen-cages that were covered with crumpled wire-cloth, which shows carelessness on the part of the queen-breeder. Nothing but straight wire-cloth should be used for this purpose, in order to have a neat package to go through the mails.

Miscellaneous News-Items

Committee to Spend the League Money.—Chairman R. L. Taylor, of the Board of Directors of the National Bee-Keepers' Association, has appointed N. E. France and W. Z. Hutchinson a committee to devise ways to spend the money ($1400) which the National recently received from The Honey-Producers' League.

* * *

The Apiary of A. W. Yates, with a picture of himself holding a frame of queen cells and cups, appear on the first page. When sending the photographs, June 7, Mr. Yates wrote thus:

> I send a photograph of my bee-yard, also one of a lot of queen-cells ripe and ready to cage in the nursery. I use the twin mating boxes, which I consider the best of anything I have before tried. I can get queens laying quicker in them, and keep them stocked more easily. These pictures were taken just after apple-bloom, on a bright, sunny day.
>
> Bees have been a hobby of mine for 27 years, and I do not know how I should now do without them and the American Bee Journal.
>
> A. W. Yates.

* * *

"Puck" Was Fooled—Not the Bees.—Mr. F. P. Daum, of Missouri, sends us this item from Puck—a joking monthly:

> Some unprincipled agriculturists in the West are imposing upon their bees by giving them artificial honey-combs. It is a mean man who would fool an industrious but simple-minded bee, and when the deception is found out, we shudder to contemplate the result.

Probably that Puck writer has just heard of comb foundation, and got the idea that it was "artificial honey-comb." Of course, all bee-keepers know that this does not fool the bees, for it is made of pure beeswax, and is simply the impressions of the bases of the cells in the beeswax. But, of course, Puck must have its little joke, or at least try to have it. This time it was only "a try," for there is no joke about it at all—except that the Puck writer was fooled, instead of the bees.

* * *

The Fifth Annual Report of the Illinois State Bee-Keepers' Association has just been gotten out at the American Bee Journal office, and mailed to members. It contains, among other things, reports in full of the last Illinois State, Western Illinois, Chicago-Northwestern, and National conventions; also 12 pages by N. E. France, Wisconsin's Foul Brood Inspector, on "Foul Brood and Other Diseases of Bees," showing how to detect and cure foul brood, etc. These 12 pages alone are well worth $1.00 to any bee-keeper. The Report is 5⅞x8⅜ inches in size.

Jas. A. Stone, Secretary of the Illinois State Bee-Keepers' Association, has this to say concerning the Report, and how it may be secured:

> It was the order of the Illinois State Bee-Keepers' Association, at its last annual meeting, that cloth-bound copies of its Fifth Annual Report be made for all the members of the Association. Following these instructions there were 300 copies cloth-bound. As there are still a few copies of same in the hands of the Secretary, they will be sent out to those who first send in their fee of $1.00 (which entitles them to membership, as well, in the National Bee-Keepers' Association for one year), and when they are exhausted paper-covered ones will be sent instead of the cloth-bound.
>
> To those desiring the Report who are not members of the Illinois Association, the paper-covered will be sent if they will forward to the Secretary 15 cents in stamps.
>
> The Report shows 236 members (and other names have been received too late to get into the Report), contains 239 pages, and the pictures of the presidents of the National, Illinois State, Chicago-Northwestern, and Western Illinois Associations, respectively; also the picture of the old State House, now the Court House, where the last two meetings of the State Association have been held in Springfield.
>
> This Fifth Annual Report is the best job we have ever had done. The quality of the paper is better, giving both the pictures and the print a cleaner and finer appearance.
>
> Jas. A. Stone, *Sec.*
>
> Route 4, Springfield, Ill.

* * *

The Canners Can Co. have been represented among our advertisers during the past 6 months. We trust that bee-keepers generally are patronizing them. They are the only manufacturers of tin cans, we believe, that have ever used the advertising columns of the American Bee Journal, at least to any extent. Although tin plate has gone up in price recently, the prices made by the Canners Can Co. to bee-keepers remain the same. This is certainly unusual, and it would seem that if they are willing to make less profit, bee-keepers should encourage them by sending in their orders. At any rate, we trust that those of our readers who need tin cans for marketing their honey will write to the Canners Can Co. for their illustrated circulars and prices, not forgetting to mention having seen their advertisement in the American Bee Journal. By so doing it will be a help not only to those who do this, but also to the Canners Can Co. and the American Bee Journal. Here is an instance where co-operation is an advantage all around.

* * *

White's Class Advertising Co., 334 Dearborn Street, Chicago, gave their third Annual Round-Up and Banquet at the Auditorium Hotel, the evening of May 22—last month. There were almost 600 present, being representatives of every field of endeavor associated with advertising effort. Mr. Frank B. White, President of the Company, welcomed the guests after the banquet, and introduced the toast-master, Hon. T. D. Harman, publisher of the National Stockman and Farmer. Among the speakers of the evening were Hon. W. B. Otwell, of Illinois, Hon. F. D. Coburn, of Kansas, and Hon. J. H. Hale, of Connecticut. The speeches were of a very high order. Following these were brief talks on various advertising subjects. It was the largest and most successful gathering of the kind ever known.

FRANK B. WHITE

White's Class Advertising—a montly publication devoted to the subject of advertising, and published by the Company mentioned—gives in its June issue a full report of the banquet and addresses delivered. The yearly subscription price is 25 cents, but the June issue alone is well worth that amount, though it can be had for 5 cents.

White's Class Advertising Co. devotes its energies to the development, preparation and placing of advertisements in agricultural publications mainly. It leads in ability and efficiency in its special line of advertising. If any of our readers desire to secure the best advice and help in the line of advertising in general farm publications, they can do no better than to write to this Company, and explain to them what they want done. As in cases of severe sickness or troubles in a legal way, it is best to consult the most expert physician or lawyer; so in advertising, the best is none too good; but in their special line, White's Class Advertising Co. is good enough, because it is the best.

* * *

Deaths from Bee-Stings.—We have received marked copies of newspapers lately telling of deaths of several persons as the result of bee-stings. We believe in each case the one who died from the bee-stings did not wear a bee-veil. Now, a good bee-veil costs only 50 cents. Why try to do anything with bees when not properly protected with a veil, when it costs so little? It doesn't pay to take any risk in working with bees, or when being around them.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Biographs of Beedomites

HENRY SEGELKEN

The honey commission firm of Hildreth & Segelken are one of the oldest in the business. They were requested to write a paper for the last National Convention. This is found on page 557, and also a late picture of Mr. Segelken, who is practically the firm. He wrote us as follows under date of June 11, when sending his photograph:

EDITOR YORK:—I will be 50 years of age on Nov. 16, next, and for an old chap I think my picture does not look quite as badly as I thought it would. Though we have been in the business 18 years, a large number of our shippers, especially in the South, we have never had the pleasure of meeting personally, and with your kindness they can now at least take a look at the man to whom they have been shipping so long.

There are really no other members in our firm now. My old, dear and beloved partner, Mr. L. L. Hildreth, died about 8 years ago. During all the years we were together not a hard word passed between us. After his death we had a special partner in Philadephia, who died suddenly last fall. His capital remains with the firm, but on advice of attorneys and others we deemed it best to incorporate our firm, which was done last month.

We have always tried to do justice to everybody, and our success is wholly due to the good-will, confidence and esteem of our shippers all over the country, as well as to our customers, and we do not fear the future. HY. SEGELKEN.

In the New York Mercantile and Financial Times for May 19, 1906, a copy of which Mr. Segelken sent us, we find a reference to the incorporation of the firm of Hildreth & Segelken. From this publication we take the following paragraphs:

One of the most noticeable features of modern business life is the tendency toward incorporation. This is, as a rule, always a wise move. By means of incorporating the business of a concern is greatly solidified and widened in scope, as it were; the members are brought into closer touch with the business and each other, and additional capital may be secured at a time required by the issue of new stock.

An interesting case in point is the incorporation of Hildreth & Segelken, of New York, located at 265 and 267 Greenwich street, and 82 and 84 Murray street, under the laws of this State, with a capitalization of $65,000, under the old-style name. The business was established in 1888, and President Henry Segelken, of the new company, has been identified with the business for the past 26 years, and has been looked upon as an authority among the trade of this section for some time past.

The house occupies a prominent position in the trade, and its success may be attributed not alone to the long and thorough experience that has been brought to bear in the conduct of its affairs, but also to the excellence of its facilities. A special feature of the business is the selling of car lots.

The company are direct importers from Jamaica, San Domingo, Cuba and the West Indies, having their own buyer located at Havana, also Los Angeles, for the California product, which, with the Florida output, they ship to all parts of the United States, and export largely to England, Germany, Holland and Belgium. One of their specialties is the handling of comb honey of the highest grades, especially the New York State product.

The incorporation of the business was certainly a progressive move, and one that is destined to make Messrs. Hildreth & Segelken's presence strongly felt in the trade.

We are very glad indeed to present to our readers the foregoing account of the firm of Hildreth & Segelken, as they have for so many years quoted the New York honey market in the American Bee Journal, and at different times have patronized our advertising columns, which they are now doing to a limited extent. So far as we remember, we have not seen a single complaint against Hildreth & Segelken from any shipper of honey, etc., during all the time that we have been connected with the American Bee Journal, which now is over 22 years. They certainly have made a fine record, for, if any complaints were due them, we certainly would have heard of them during all these years. No wonder Mr. Segelken closes his brief letter to us with these words: "and we do not fear the future." Surely, any business firm that deal justly, and make the interest of their patrons their first consideration, need not worry concerning their future.

M. A. GILL

On page 558 will be found a late photograph of Mr. M. A. Gill, of Longmont, Colo. He is one of the leading bee-keepers of that State, and one of the best convention men in all beedom. When sending his picture, June 11, he wrote these few words about his present honey prospect:

Our honey-flow is just coming on, and swarming as well. With 1000 colonies to handle, and 100 miles to drive each week, it amounts to a "strenuous life."

One year, we believe, Mr. Gill had 70,000 pounds of alfalfa comb honey. If we remember correctly, his whole family are interested in the bee-work. It is doubtless as "sweet" a family as is indicated by the number of colonies of bees they handle and the amount of honey produced when they have a fair crop. We trust they will be able to make a good report by the end of the present season.

Contributed Articles

Prevention of Swarming When Working for Extracted Honey

BY G. M. DOOLITTLE.

A CORRESPONDENT wishes me to give the best method of preventing the swarming of bees when working for extracted honey, adding, "The bees are to be at an out-apiary."

Bees seem far less inclined to swarm when worked for extracted honey than when worked for section or comb honey, hence the prevention of swarming when working for extracted honey does not require nearly so vigorous treatment as when working wholly for section honey. In fact, my experience says that when a person has plenty of supers filled with drawn combs, so that each colony can be given 1, 2, 3, or even 4 hives full of frames of comb, giving these 1 at a time, a little in advance of their being filled with honey to the sealing point, there need be no treating for swarms in other ways, as not one colony in 50 will swarm when they are given hives of comb in this way.

As regards swarming, it matters not whether these combs are given in the way spoken of, or all at once, but better results in honey will be obtained when given 1 hive at a time, as the bees progress with their work in them, than will be the case if the whole number of upper hives filled with empty combs are given all at once.

That pioneer in bee-keeping, here in the east, Moses Quinby, told us as early as 1865, in his "Mysteries of Bee-Keeping Explained," that if a colony was placed in a large dry-goods box, and filled it with comb, such a colony would not, as a rule, swarm ever afterward; or words to that effect. He also told us, that if a swarm hived in this same box, which the first year built comb sufficient to fill only about 2,000 cubic inches of the large space, such a colony would generally swarm before they would add very much to the combs they already had. From this the correct inference was drawn that merely empty space in any hive, or in a super or supers above the brood-nest, would not prevent swarming; but with the same space filled with empty combs, swarming was practically done away with. And in all of my experience with bees along this line I have found Quinby correct.

But there are very few at the present day, who wish to give comb-room in a big box, or even in 3, 4, or 5 hives set one top of the other in such a way that the queen has access to all of these combs, for in so doing we are likely to rear a lot of bees during the honey harvest, by having a large amount of this comb filled with brood to be fed during the harvest, and then emerge into bees later on, to become consumers of the harvest after that harvest is past. Consequently, the most of our best apiarists of the present time use a queen-excluder between the lower hive, or brood-chamber, and the hives above, thus shutting brood out from all but the lower hive, or the one in which the colony wintered. By thus shutting the queen down to only one hive for her breeding, the prospect for swarms is enhanced, and with bees thus worked I find that from one-third to two-thirds of the colonies so worked are inclined to swarm, just in accordance with the season, and just in accordance with how nearly the bees are forced to near the sealing-point with the honey in the first story above the brood before another story is added.

I find honey is better ripened, if the first story put on is allowed to become sealed a little before another is added, and for this reason it is better to allow such sealing even if we do have to do a little work to prevent swarming, especially as such work saves a lot of useless consumers just after the harvest of white honey has past. In view of all this, I cage the queens at the time there is a desire to swarm on the part of many colonies, which is generally when the white clover harvest has reached its height, leaving them caged for 10 days, at the end of which time all queen-cells are taken from the brood-chamber and the queen released.

This course does not have the same effect when working for extracted honey, that it does when working for comb honey, especially where the bees must build a part or all of the comb in the sections, for with the caging of the queen a tendency comes to cease the building of comb as freely as is done when the queen is at liberty in the hive; while with combs already built, so that the bees have plenty of storing room, there seems to come no slack in nectar-gathering, as long as the bees have a queen, no matter whether she is at liberty or not. And if we clip the wings to all of our queens, if a few colonies begin to swarm before we think it time to make the general caging, the bees will not go away, and this swarming on the part of the few will be detected at the general caging, before any young queens will have time to emerge from their cells. So I leave this stopping-of-swarming part till I think it wise, according to the season to cage all of the queens, when the work is done and all over with at one visit to the out-apiary, and the queens all let out at one visit 10 days later.

Of course, where any colony has swarmed, the queen-cells used for this purpose must be taken off at the time of caging the queen, and then again at the expiration of 10 days, else we shall have swarming while the queens are caged, through these cells hatching, and a young queen leading off the swarm.

All who are familiar with the inside workings of the colony will see that the eggs which the queen would have laid during the time she is in the cage would give emerging bees just about the time the harvest from basswood would close, hence they would become consumers instead of producers, and for this reason we save more than enough from the consumption of honey to pay us for our trouble of caging the queens, cutting of cells, etc., while the colonies become ready for the buckwheat harvest just as well as though the queen had been laying all the time.

Of course, all will see that this is written from the standpoint of a locality giving a yield of honey from white clover, basswood, and buckwheat. In any locality where there is a steady, continuous yield of nectar from the beginning to the ending of the season, this cutting off of 10 days of eggs by the queen would result in a loss in honey rather than a gain, and should not be done. In such a locality, it is best to allow the queen to have access to all the combs given, and then extract from those not having brood in them, or from those having only sealed brood and those having only honey; for the extracting of honey from combs containing unsealed brood is a vexation of spirit to the one doing the work, and nauseating to any consumer of honey who is an onlooker.

Borodino, N. Y.

Chrysanthemums and Perfumery Offered With Comb Honey

BY G. C. GREINER.

YES, Mr. Hasty, for 2 cents a pound—which I am well satisfied I realize now by extra care in handling my goods—I would be willing to put your kind suggestions (page 408) into practice, and furnish a blue ribbon in the bargain. Always bear in mind that it is the fancy article, presented to the consumer in fancy style, that brings the fancy price. The job would not be finished, if we take pains to produce a fancy article and then handle it in a slipshod way; we would fall short of the most desirable part of all our toil's reward—the expected fancy price. It would be like the man who gets on board the vessel to take a journey across the ocean, and when in sight of the other shore, jumps overboard.

A great many failures in making satisfactory sales are directly due to this very point: The producer spends his time and labor, puts forth every effort to produce a fancy article, and then neglects the most important part of his business—of turning his crop into money at top figures. Make light of these points, if you please, but we are the losers by it.

Last fall, while standing in one of our city markets, persons came to my wagon repeatedly and inquired the price of my sections. I sold them at that time for 16 cents apiece, and the inquirer would say: "Well, your neighbor, a little ways down the line, asks only 15 cents for his."

In this case I would say: "I am not here to run my neighbor's goods, but compare them with mine, and then make your own selections; buy wherever you can to your best advantage." The inquirer would invariably take some of my fancily-put-up sections before leaving.

To be sure, the difference of one cent is a small affair, but the point is right here: I was all sold out before I left the market, and my neighbor had his honey left on his hands.

After I sold out I took a walk down the line to have a neighborly chat with my rival (?), and found him fully disgusted with the honey market. He said he had sold only one or two sections all the forenoon, and it would be the last time that he ever brought any more honey to that market.

It was plain enough to see the cause of this difference in our day's experience. The quality of our friend's honey was in every way as good as mine, but his sections were unsightly, covered with propolis—just as they were taken from the hive, and no provision was made to furnish a safe way of taking them home. If this friend had been a little more particular in preparing his honey for market; if he had kept one eye on Mr. Hasty's suggestions along the line of chrysanthemums and perfumery, he would undoubtedly have fared a little better in disposing of his goods.

La Salle, N. Y.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Bee-Keeping in Georgia

MR. SCHOLL:—I am a native of Texas (was brought up there), and was connected with bee-keeping there 4 or 5 years about 26 years ago, and it was there I learned to love bee-keeping, and at that time I was familiar with bee-keeping in many sections of that State, as we traveled and lived mostly in an ox-wagon.

I am to be in Texas some time this year on business, and if I have a chance I want to visit many of the bee-keepers. The greatest thing we are doing over here is keeping quiet. In regard to myself and my business, I will say I am not much of a bee-keeper, but my business is a paying one. I operate every line of bee-keeping. Other bee-keepers are doing well, and in all we have about 1900 bee-keepers, mostly old style, but get good returns from their apiaries. Our bees at present are in the best shape. We have no very large bee-keepers, as we have no great honey-plants here. The gallberry plant is what settled me here.

I might send you some photographs later, and may write a little for you at odd times.

Our association has done a great work. We hope to have a good meeting this fall. Come down. We want to get bee-keeping on a better paying basis, and are hard at work to that end.

I will write you again at my earliest convenience.

J. J. WILDER.

A brief write-up of your 5 years' experience in keeping bees, traveling and living in an ox-wagon in our State of Texas 26 years ago, I am sure would be interesting to most of us tenderfeet of nowadays. Perhaps you would find time to jot it down some time and send it along. Those photographs and other writings will be greatly appreciated in "Southern Beedom," for you see the entire South is included in "Southern Beedom."

Will you be kind enough to send us the names of the officers of your association, and also the time and place of the next meeting, with the program?

You are on the right "track," and may Georgia soon be upon a high basis as an apicultural State. Hard work to that end should certainly accomplish it.

Unsealed Brood On Outside of Brood-Nest to Prevent Swarming

As everybody who has bees has a plan to keep them from swarming, I will tell mine. We have practised it for 3 years, and where we followed it up carefully we have not had a swarm, and have had from 150 to 600 colonies of bees. The plan is this:

Simply keep open brood on the outside of the brood-chamber, and sealed brood in the center. Work through the yard from 6 to 8 days; keep all queen-cells cut down. It is my experience that the bees will not swarm if there is open brood in the outside frames. The natural condition of a colony of bees at swarming is all sealed brood outside of the brood-nest and open brood in the center. So just change it. Cut down all queen-cells, and I will guarantee no swarming until the open brood is sealed on the outside frames.

W. T. BRITE.

Verdi, Tex.

Reports and Prospects—Bitter Honey

The weather so far has been very unfavorable this spring for bees, there being too much rain and cool nights. However, it looks a little more favorable now. Corn has begun to tassel, and horsemint is in bloom. The last 2 seasons have been very poor here for bees, except last fall, when there was a very good honey-flow, but the honey was so strong it was like eating red-pepper, and I can't account for it, unless it was from smartweed; but it has been here all the time, and I never saw any honey like it before.

Lone Oak, Tex., June 10. H. L. RUSSELL.

Bees have been on a boom for 2 weeks. Never in my 35 years of handling the honey-bee have I seen as good a honey-flow first from locust. Poplar is now coming into full bloom. The fields are white with white clover, and blackberry is in full bloom. Raspberry and swamp-dogwood also are in full bloom, all yielding an abundance of nectar. The weather has been fine up till to-day; it is raining now, which is bothering the bees some, but my 50 colonies are all in fine condition for gathering nectar, and do not seem to have any desire to swarm. I hope for an old-fashioned honey-yield this season.

Mast, N. C., May 28. A. J. MCBRIDE.

Bees have not done well here for 2 years on account of cold, rainy and late springs, giving very little surplus honey. A good many starved out. I have 11 colonies in 10-frame Langstroth hives. They are storing some nectar from horsemint and corn-tassel. This is a poor location for bees. Those who have bees here keep nearly all of them in old box-hives, and will not read bee books or papers, as I have tried them. I expect to read the American Bee Journal as long as I can pay for it. May it live long.

Jonesboro, Tex., June 11. J. M. COOPER.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Work-Shop Struck by Lightning

May 23, during a severe thunder-storm, our work-shop was struck by lightning. Fortunately it did not catch fire. It would have been rather a serious affair for us had it burned, as all our supplies, including about 25,000 sections all ready for the bees, were stored there. I think I never before realized what a force there is bottled up in lightning, until I looked around at the way things were splintered. It seemed to strike in several different places on the inside and on each side of the roof. But we considered oursel[illegible] fortunate when we thought of what the loss might have been. The damage was more than covered by insurance, but we did some lively hustling to get the piles of supers covered up to keep them from being ruined by the rain which poured through the broken roof.

Honey-Paste for the Hands

Honey-paste for whitening and softening the hands: Rub together 1 pound of honey and the yolks of 8 eggs; then gradually add 1 pound of oil of sweet almonds, during constant trituration; work in 8 ounces of blanched and ground bitter almonds, and perfume with 2 drams each of attar of bergamot and attar of cloves. This makes quite a large amount. It would be better to experiment with half of the portions. Red, rough hands must be kept out of hot water as much as possible. When bathing, use the very purest soap you can find, and be sure to dry the surface of the hands thoroughly.—MME. QUI VIVE, in Chicago Record-Herald.

Mr. Acklin's Death

The news of Mr. Acklin's sudden death came as a great shock to his many bee-keeping friends. At the Chicago convention of the National, last December, he seemed the very embodiment of strong, vigorous manhood. The earnest sympathy of all the sisters go out to Mrs. Acklin and Miss Ethel in their great sorrow.

A "Southern Beedom" Sister—Caring for Italian Queens

Now, see here, Mr. Scholl, don't you think it naughty of you to try to lure the sisters from their very own corner, to go South, as you did on page 507? Then, do you really think it gentlemanly not to answer a lady when she asks you a very direct question? Mrs. Williams asked you, "Can I take brood out of one or two hives and put it into a new hive, and put the ordered queen with them? Of course, take some bees with the brood. I want Italian queens, but do not like to destroy the common queens." And never a word of reply did you give her. Of course, we will forgive you this time, if you are truly sorry and promise to do better in the future. What say you? are you going to be good?

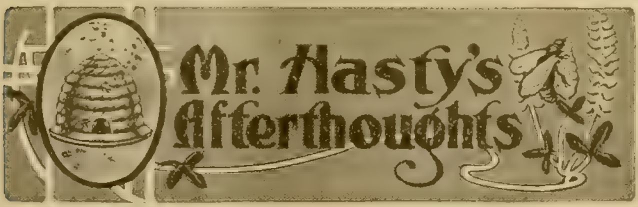
If Mrs. Williams will stay in her own corner she may have her questions answered more promptly. And to save her the trouble of asking again it may be well to answer right here and now:

Yes, you can do that way; only if you take no precaution the bees that you take with the brood will be likely to desert it, if you have only 2 or 3 frames of brood. So it will be well for you to imprison the bees for 2 or 3 days. A good way is to stuff green leaves or grass into the entrance, then if you forget to open it in 2 or 3 days the green stuff will have dried so that the bees will easily open it for themselves.

But don't you want to have more than a nucleus for your new queen? If you do, you might proceed in this way: Find the old queen; take the frame of brood she is on with its adhering bees, and put them in a new hive. Put this new hive in place of the old one, and set the old one on a new stand, giving it your new queen in its cage. You will thus allow the new queen to start housekeeping with a full force. There will also be the advantage that the field-bees will all have gone to join the old queen on the old stand by the time the new queen is out of her cage, and the younger bees will be more friendly to the stranger.

If you want to make it easier to find the queen, you can vary the program. Instead of taking any bees and queen with the frame of brood, brush off all the bees and put into the new hive the frame of brood without any bees, setting the old hive on the new stand as before. The fielders, as they return with their burdens, will enter the new hive, and a day or two later there will be only the younger bees in the way when you seek the queen to return her to the old stand. If you put the new queen into the old hive at the time you put the old hive on the new stand—and it will be quite proper to do so—you must have a piece of tin over the candy in the cage, or have it arranged in some way that the bees can not get at the candy to liberate the queen until the old queen is removed.

Now Mr. Scholl can take his revenge by giving a better plan.



The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Do Drones Fly Further than Workers

That proof on page 421, that drones fly further than workers is hardly proof as it stands. "Quite a long distance" is a very indefinite term; and I'll whack my indefinite "guess" against it. To start with, it's very improbable that drones are superlatively enduring on the wing, as compared with workers. I'll guess that the "quite a long distance" was not much over a mile, perhaps less. And the reason no workers returned was not because it was too far, but because they were unfamiliar with the territory. And the reason they were unfamiliar there was that, so far that season, nothing good enough to draw them had been in bloom in that particular territory. The drones were familiar with the territory *because their daily play-gound happened to lie in that region.* I infer from what I have read that it is common for drones to have a chosen spot, some distance from home, where they usually go when they come out for a long flight—other drones from all colonies within a mile or two usually joining them.

Mating of Queens in House-Apiary

Frank Kittinger is hardly correct, that hiving on the old stand obviates *all* mating of queens in a house-apiary. The queen hived there each year must needs get old and die—and the queen the bees rear to supersede her has to run her chances of getting the right one in a street of entrances. Page 422.

Father Dzierzon and Longevity

The inventors of the movable frame, and of the extractor, and of comb foundation, and possibly a few others, did more to bring in the cash to those who keep bees for a living than did Dzierzon; but his discoveries by far lead all others in importance to the biologists and other scholars of the world. Surely our sympathy, even if unspoken, should go out to him in his "days of darkness," as Solomon calls them. Sad. Feet too tender and weak to walk around; eyes too dim to read; ears too dull to listen to reading—and not 100 yet till Jan. 16, 1911. (And this is the port youth sets sail for.) Let us hope for him that he can still *think* with enthusiasm—and worship at a never-to-be-taken-away mercy-seat. The pleasure of thought is a high order of pleasure to those who have gone that far. We would fain get some comfort out of that, both for him and ourselves. Alas, it may be as liable to failure in senility as sight and hearing are. My experience rather makes me think that that is the case, indeed. But having partially failed, it seems to be capable of *coming back.* Sight also sometimes fails and then comes back again; and vigor of thought comes back easier than sight does, we hope, and far easier than hearing does. A neighbor of mine, whose funeral service I conducted, came within less than a year of the 100-year mark; and in his case the "days of darkness" were of a very mitigated sort. Do we want to join the Two Hundred Year Club—which same implies the definite and steady effort to get ourselves into the second century of corporeal life? Notwithstanding the menacing shapes seen in the mists out that way, I think I'll join. There is no Be-a-boy-again Club to join. Here's for 1941! Page 422.

Relation of Swarming to Comb-Surface

Mr. C. F. Smith's figures quoted on page 423, I suppose, are for but one year. Even at that they are important. Of 7-frame hives 95 percent of them swarmed; of 8-frame hives 85 percent swarmed; of 9-frame hives 70 percent swarmed; of 10-frame hives 55 percent swarmed; of 12-frame hives 33 percent swarmed. Here is a consistent decline of swarming corresponding with the increase of comb-surface. Verification of these figures (or the contrary) is valuable work for those students who want to be doing something of public value. But, as Mr. Dadant suggests, it's no fair trial to add combs to the brood-chamber and leave the supers no more roomy than a 7 or 8 frame hive would have.

Facing of Hives—Requeening

In a French apiary one hive faced the south while all the rest faced the east. This one prospered greatly and exceeded its fellows in yield of surplus. Adrian Getaz seems to consider the case a puzzle. Easy puzzle to me, as I have had a somewhat similar case. A solitary colony faced south (or west) in a big apiary faced east *steals bees from its neighbors dreadfully during winter-flights.* Mutual good fellowship is apt to prevail in winter. Flight begins with all east entrances warm in sunshine. Before the bees get ready to go in all entrances are chill in shadow except that one. That one becomes a jolly rallying place for a great population besides its own; and they end by going in there for keeps.

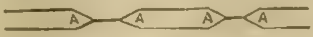
We should try to be reasonable creatures and not make our decisions of the iron-clad variety. Mr. Getaz illustrates this when he remarks that two of the reasons why he wants a young queen in each hive every single year do not exist at the Dadant apiaries. That hints that some may requeen every year, and some never requeen, without any sharp disagreement being necessary. Page 423.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

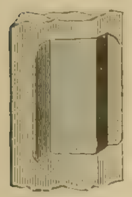
Side-and-End Frame-Spacer

Friend Pettit:—I have been reading with interest the "Canadian Beedom" in the American Bee Journal. This week's issue is just to hand, and I was much interested in your discussion of frames and spacers. I use all Hoffman frames, and the first I made had the V-edge. I won't make any more of them, but get along fairly well with those having a flat bearing. I notice you are inclined to regard with favor the new metal spacer for Hoffman frames, and they may be better than I think, but I am of the opinion they are no improvement over the wood bearing. If those little projections came out abruptly they would be all right, but they don't. There is a sort of a prop at each side, and when the two spacers come together there will be a space formed varying from a bee-space to nothing, which, I think, will be filled with propolis. Perhaps this will better illustrate what I mean:



You see, the two spacers coming together form that V-space at A, which is going to cause trouble.

The nail or staple spacer does not suit me in many respects, and thinking that a spacer having almost a knife edge for a bearing would be better, I experimented a little along that line. I am mailing a sample under separate cover. The few I have in use are home-made and tedious to make, but I think they could be made at a supply factory at a small cost. You will see by this one that they are both a side and end spacer, and are put on each end of the frame at opposite corners. The few I have are very satisfactory, and as soon as possible I will use them entirely. The bearing is so small that there is practically no trouble from propolis.



If you see any fault with this spacer please say so.

Palermo, Ont., April 27. H. A. SMITH.

With me the Root spacer is an experiment, but looks good. I can report later. The objection to a square top and bottom projection is that it would catch in removing the frame or replacing it in the hive. The spacer is, *to me*, no better than a staple. My top-bars are only ⅝-inch deep, 5/16 below the lug; end-bars ¼-inch thick. Your spacer has a ¼-inch bend which throws it just inside the end-bar. With ⅛-inch bend it might be all right, but difficult to fasten to the frame. I do not want end-spacers; prefer a full-length lug.

The Bee's Acute Sense of Smell

A long time has passed since the days when I began my study of bees and flowers by way of preparing my thesis for the doctor's degree, writes Gaston Bonnier, of the Academie des Sciences in La Revue. I had been taught that the reciprocal adaptation between insects and flowers, and the attraction of bees by the colors of flowers, were well established facts. I was convinced in advance, and with the enthusiasm of youth I believed that my observations and experiments would at all points confirm these propositions by lending them new proofs. The good Decaisne, somewhat skeptical on this point, concealed his suspicions and encouraged me in my work. When I came to see him, after several months spent in Normandy with a Norman bee-keeper, I brought him the first results of my researches and confess genuine despair and the beginnings of disillusionment. All my observations and all my experiments contradicted the theory of reciprocal adaptation, and especially contradicted the role attributed to the colors of flowers as sign-boards to attract the bees. "Keep on with your work," said Decaisne, hardly able to conceal his satisfaction. "Keep on with your work; it is more interesting than you believe."

INTERESTING EXPERIMENTS.

I accordingly kept on. After numerous observations, I made out a list of plants whose dark or green colors are scarcely visible at all, but which are all richly stocked with honey and constantly visited by bees or other insects in search of nectar. To this I added that of the trees on whose leaves the bees alighted in search of sweets—leaves colored precisely as are the honey-bearing leaves about them—and all the plants to which honey-seeking insects go to find nectar, apart from the flowers, in various portions of the plant which have no color are almost invisible, yet which contain the "extra-floral" honey.

Alongside this list I prepared another, equally long, containing the names of brightly-colored flowers with brilliant petals, but having no secretion of sugary liquids, and consequently never visited by bees or other insects in search of honey.

As for the experiments, I made extremely varied ones, and they led always to the same result, namely, that there was no correlation between the presence of a bright color and the bees' search for sweets. I cite a single example. I placed little squares of different colors on the uniform green background of a field, each square, whether red on a green background or green on a green background, being at the same distance from the hives. Then I placed the same quantity of syrup or honey in the middle of each square. The bees discovered these various deposits of sweet liquid with unvaried promptitude, and collected in practically the same number upon the different squares, the color having absolutely no influence upon their search. The red on the green background attracted them no more than did the green on the green background, or the syrup on the grass itself in an equal quantity.

THE SCIENTIST'S DEDUCTIONS.

The result of all my experiments was as follows:

"There is no relation between the development of color in flowers and that of nectar in flowers."

"Under like conditions the most brilliantly colored flowers are not the ones most frequently visited by the insects."

"The visibility of flowers is in no wise proportionate to their adaptation for cross-fertilization."

"Insects collect in the greater number wherever the honey is most abundant, the richest in sugar, and the most convenient to get at."

Then appeared my "Memoire sur les Nectaries," including a chapter on bees and the colors of flowers, whereupon I was loaded with a wonderful assortment of unpleasant epithets, coming chiefly from German scientists. In the Revue Scientifique appeared an unsigned article in which I was ferociously assailed, though the author did not take the trouble to cite a single observation or a single experiment in contradiction to my conclusions. I went to see M. Alglave, who then edited that review. He gave me no explanation, and simply said: "You are attacking a theory sustained by Darwin; therefore you are not one of us; that is enough."

Why can't a man be an evolutionist without having to accept Sprengel's theory of the adaptation of flowers? That is a mystery, but the fact remains. These adepts are more extreme royalists than the King himself, for Darwin always made cautious reservations, and cited facts in contradiction to his theory; but, according to my enemies, the sacred edifice of evolution must not be touched even when one seeks to rid it of an ill-cut stone that spoils its beauty.

And yet no experiment worthy of the name, and no serious observation whatever, were brought forward to contradict the results I have just stated.

CONTRARY OPINIONS.

Although certain authors, like MacLeod and Felix Plateau, concluded from their observations and experiments that the colors of flowers had no appreciable influence in attracting the bees, others expressed a contrary opinion, and very recently Mlle. Wery reached the astonishing conclusion that the colors of flowers exerted an attractive force of 80 percent as compared with the attraction exerted by honey, pollen, and fragrance combined.

The researches of M. Felix Plateau, who is a professor of the University of Ghent, are really important, as his observations are very numerous and his experiments extremely varied. The author begins by an extremely detailed verification of one of the points I had demonstrated, that the bees show no preference and no antipathy for the different colors displayed by the flowers of different varieties of the same species. On the other hand, M. Plateau takes up the list I made of plants with dark or green flowers that are laden with honey and frequently visited by insects, and corrects it at certain points quite justly, at the same time extending it considerably according to his direct observations and those of several other naturalists, among them MacLeod.

But the Belgian scientist did not content himself with mere verifications. He manufactured artificial flowers (the cleverest imitations possible—no matter what his enemies may say—in paper or in cloth), and the bees never came near them. He made others out of living leaves with natural vegetable odor, but no bright color. If honey was put into them the bees came to these sham green flowers; if the honey was taken away they cut them off their calling list. If no sweetened liquid was put into them at all the bees gave them the cold shoulder from the first.

Then the honey-bearing portion of natural flowers was recovered without injuring the gorgeously colored corolla, and insects in search of honey never alighted upon these mutilated flowers. If, on the other hand, bright and nectar-laden flowers were hidden away under green foliage, the bees cleverly discovered the nectar in them, invisible though they were from a distance, and came to get it.—Translated by the Boston Transcript.

(Concluded next week.)

Convention
Proceedings

NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 541.]

The Secretary read the following paper by Hildreth and Segelken, of New York on

CAN THE TARIFF ON COMB HONEY BE TINKERED TO THE ADVANTAGE OF THE UNITED STATES BEE-KEEPER?

There is not very much to be said in answer to a question of this kind; principally for the reason that there are very few markets, if any, which are shipping comb honey into this country in competition with the American produced article. We have noticed in some of the bee papers some comments upon this subject and it appears to be a question of some importance to some of our domestic bee-keepers, who seem to be scared and afraid that foreign comb honey will eventually flood the American markets, and thereby lower the price of the home product.

We are of the opinion that there is no necessity nor good reason for anxiety on the part of our bee-keepers, who seem to be laboring under the impression, and have an idea, that in the West India Islands honey can be produced in abundance and at very little expense; but they do not take into consideration the drawbacks and disadvantages which beset the Cuban or West Indian producer. Cuba is perhaps the only country which is sending comb honey to the United States. This country has been attempting to produce comb honey for the past 3 or 4 years without very much success up to the present time. The principal reasons for the non-success is that most of the honey produced in Cuba has been produced in what is known as the Cajacriolla, or native hive, which is composed mostly of logs formed in a triangle, with a rock for a top, or some similar device. In such an apiary as this, a person of ordinary intelligence can understand that comb honey cannot be produced.

There has, however, been an evolutionary movement among the bee-keepers of some understanding, on the subject of apiculture, to use what is known as the "Systemo Americano," which, when translated, would be recognized as our own modern bee-keeping system. It is difficult to say what percentage of producers are using modern methods in Cuba, but it is safe to say that not more than one-third.

Then bee-keepers' supplies cannot be purchased in Cuba as cheap as they can in the United States, for the reason of the excessive ocean transportation charges and the high railroad charges after the goods have reached Cuba. It would, therefore, be in order to say that bee supplies would cost the Cuban producer, delivered at his apiary, 20 to 25 percent more than the cost of the American bee-keeper in his own country.

After considering the cost of the material for the production of comb honey, the next point to consider is the labor. The native bee-keeper in Cuba knows nothing about the production of comb honey, and his experience up to the present time has not been much of a success. Some few parties who are producing comb honey in Cuba are only able to do so with the aid of expert American honey-producers. To the ordinary bee-keeper this is impossible, owing to the large share of the production that would be necessary to give to such an individual, or the comparatively large salary which would need to be paid. There are, therefore, but very few native honey-producers who are enterprising to this extent, most of the comb honey being produced by Americans in Cuba. The cost of producing comb honey in Cuba is always estimated by the value of the extracted honey, and wax that would be used in the production of the comb honey, plus the additional cost of labor, and when this is figured down to a true basis, comb honey cannot be produced for less that 7 cents per pound, to any advantage, no matter what the grades may be. Where the price is lower than this, it is much more advantageous to produce extracted honey and beeswax.

There is another point to consider, which is not capable of exact calculation, but every bee-keeper who has ever produced honey in Cuba has stated that when producing comb honey, the result is considerably less pound for pound, than when producing extracted honey and wax. This would necessarily bring the comparison average still higher than the estimated cost.

The freight from inland points in Cuba to the city of Havana, which is the principal shipping center for honey, is higher than that in the United States, and the ocean freight rate would figure about 15 cents per shipping-case, or an average of about ¾ cents per pound; in addition to this, the duty would amount to 1 1-3 to 1½ cents per pound.

Assuming that honey could be purchased at the same comparative cost on the basis that we have already estimated—7 cents per pound—and adding the charges mentioned, it will be readily seen that Cuban comb honey cannot compete with American produced comb honey.

Furthermore, it must be taken into consideration that Cuban comb honey cannot reach the American markets as early in the season as our domestic product. Domestic comb honey reaches our various markets, say from the latter part of August up until November. The season in Cuba, if favorable, does not commence before the middle of October, and very often there is no honey-flow to any extent until November or December. It is safe to say that comb honey from Cuba cannot reach our markets before December, and generally not before January. By this time, in ordinary seasons, unless there is a large crop throughout the United States, which rarely, if ever, happens, the domestic crop is, or should be, well cleaned up. Of course, there are always some bee-keepers who will *hold on* to their honey instead of selling at fair market value when they have an opportunity. It may be somewhat out of place to make mention of this matter here, but, nevertheless, it is a fact which should be taken into consideration. Those bee-keepers have a perfect right to hold on to their honey for better prices, which, however, as our experience for 20 years has taught us, are very seldom, if ever, realized. It is such honey which is *being held* that may come into competition with the Cuban product.

HENRY SEGELKEN

Years ago there was practically no demand for comb honey after the holidays, and whatever was unsold by January 1st, was considered dead stock and was a drug on the market. Slowly and gradually there has been a change, and there is now a demand for comb honey from January until May, although prices may generally rule lower than those obtained in the early fall. Therefore, it is only this late market, or spring market, on which the Cuban bee-keeper can depend for the sale of his product, and he must be satisfied in realizing whatever the market will warrant.

The Cuban bee-keeper is not bedded on roses, even if he walks under palms. The high cost of the supplies, inland freight-rates, ocean-rates, high labor, import duty, and the late market, are against him. Why then, we ask, should the American bee-keeper fear this competition?

In conclusion, a further point to consider with regard to the question of raising the tariff, is, that it must be remembered that our tariff treaty with Cuba is a reciprocal one, and were we to make it prohibitive by increasing our tariff in the United States, upon what little comb honey there is shipped from Cuba, there is no question but that the Cuban government would fail to see the justice of such reciprocity. Our manufactured exports from this country to Cuba amount to an item by which the honey-production in this country cannot be compared, and if the tariff on comb honey should be tinkered to the advantage of the United States bee-keeper, there is no doubt that the tinkering would be very much to the disadvantage of our other commercial interests, which facts will no doubt receive the proper consideration if such a Bill were introduced into our Congress.

We do not desire to decorate ourselves with strange feathers, and wish to say that some of these facts in regard to the condition in Cuba, have been given us by parties who are thoroughly acquainted with the situation. As far as we ourselves are concerned, we have endeavored to state the facts as they exist, without any prejudice or partiality on our part.

The answer to your question is, therefore, "No."

Hildreth & Segelken.

Mr. Hilton read a paper by Mr. M. A. Gill, of Colorado, on

SHORT CUTS IN BEE-KEEPING

In practicing the short cuts in bee-keeping the first thing to commence upon is yourself. Don't go into the battle and find that you are out of information and ammunition; be prepared, and then don't worry. It is a fact, perhaps, that no class of men worry so much about the weather as bee-men. Who was it that said:—

As a rule, man's a fool;
When it's hot, he want it cool;
When it's cool he wants it hot;
Always wanting what is not;
So, as a rule, man's a fool.

Remember that the sun is everlasting, and that the clouds are only temporary, and that it is best to turn them wrong side out, occasionally, so that you can see the silver lining; and when you cannot count your profit count your other blessings. That was the only way I could get any comfort this season, when I figured up that my sales had been $400, and my expenses, $1,500.

In giving my ideas of the "short cuts in bee-keeping," I shall give them from my own view-point—that of working for comb honey; not with 100 colonies, but with more than 1,000, in a climate such as is found only in the arid West.

If you intend to keep bees upon a large scale, establish a large home apiary and have ample shop and warehouse room where all work is done and supplies kept for the out-yards. Don't build a lot of useless honey-houses at each out-yard; but get the habit of using your wagon with a good sheet, which is always bee-tight if properly used.

Much valuable time is lost by taking all supplies from the wagon to a honey-house, then out to the bees; and by taking honey from the bees to a honey-house, to be again moved in a short time to the wagon. Better take your honey right to the wagons, keeping it perfectly bee-tight (if conditions require it); thus there is only one exposure to the bees. By this plan your load is ready to go home when you are.

If you intend keeping bees on a large scale, don't turn inventor; and don't adopt every new-fangled hive that comes along. I know there are many inventors who claim that if their particular fussy plans were adopted universally, bee-keeping would be revolutionized.

In my opinion the poorest hives are of recent invention, and the best practical hive ever invented was that by Father Langstroth, 50 years ago—and "Glory be to his name!" Yes, the simple Langstroth hive, with Hoffman frames, and the more modern supers, are good enough. Whatever you use, have a complete uniformity of fixtures.

When it comes to the management of bees in all climates where they may be wintered out-of-doors, have your winter loss the previous autumn. This can be done by killing poor queens and doubling up until every colony has a vigorous queen, a hive full of young bees, and full of honey. Then in the spring, if conditions are normal, the bees will lead you along at a merry clip to keep up with *your* work, instead of your continually fussing with them to get them ready for *their* work.

In supering the bees, there are three in my crew: One wheels the supers from the wagon; another puts them on the hives; and the third man follows with a spirit-level and a grape-basket full of little wedges (that have been previously prepared), and properly levels each hive.

M. A. GILL

In the care and management of swarming is where every bee-keeper is put to his wits' end to be equal to all emergencies. No two seasons are exactly alike, and any system must be varied to meet contingencies.

In locations where the last half of July and all of August have a sufficient flow to store surplus, it is safe to shake a whole apiary from May 25th to June 10th (varying the time as conditions vary), making, perhaps, from 75 percent to 100 percent increase, and seeing to it that all increase has young laying queens as soon as possible.

You may expect such an apiary in such a locality to come up to the close of the season with as much surplus honey as though there had been no increase—and you are the increase ahead; and, besides, the plan will enable you to place such yards *"hors-de-combat"* through the swarming season, and enable you to give your entire attention to yards where the main flow of honey is earlier.

Where you wish to control swarming, or increase rather, this can be done completely by the so-called shook-swarming method. With me, shook-swarming is the most feasible route I have found to the absolute control of increase. Any plan that requires any subsequent fussing with, is not practical with the man who is caring for hundreds of colonies and running on schedule time and visiting every colony every 6 days. I think many who have tried shook-swarming, and have condemned the plan, have mistaken superseding for swarming in some cases, and in such a case it will always fail. It is surprising, sometimes, when a large percent is found superseding during the months of June, July and August, where the go-as-you-please plan is followed with regard to queens.

I am not going to try to cover the ground under my title, "Short Cuts in Bee-Keeping," for I believe that the most satisfactory and effective work in bee-conventions comes from the batteries that are always trained upon the question-box.

In recapitulation, I will say that preparedness, alertness and a complete mind-picture, as it were, of all conditions in each apiary; this, together with uniformity of fixtures, and a complete knowledge of your field and its flora, constitute the short cuts in bee-keeping, and all this means *work*.

M. A. Gill.

Mr. Baxter—The paper should be entitled, "Short Cuts to the Production of Comb Honey," because there are many things in the paper that are not applicable to extracted honey.

The President named the following committee:

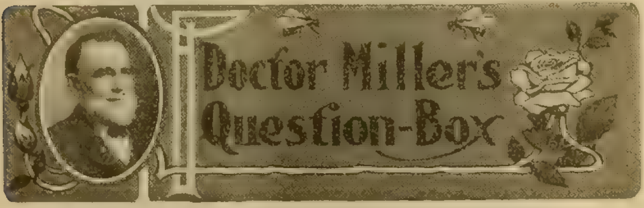
Committee on Resolutions—W. H. Putnam, O. L. Hershiser and W. Z. Hutchinson.

Committee on Exhibits—M. Pettit, A. K. Ferris and E. J. Baxter.

Committee on Amendments to the Constitution—R. A. Holekamp, E. R. Root and George W. York.

Committee on Question-Box—R. L. Taylor, N. E. France and W. McEvoy.

(Continued next week.)



Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Why Prefer Italians?—Rearing Queen-Bees

I have recently begun to take an interest in bees, and have begun to read, make hives, etc., and the more I read and work with bees the more things I want to know. Perhaps you know the symptoms, and, hence, can diagnose my disease.

1. I judge (I can't recall how I got the impression) that you keep Italians (or Italian-blacks, or both). Why do you keep them? and why do you prefer them to Cyprians, Carniolans or Caucasians?

2. I read about placing "royal jelly" in queen-cells, etc. I don't know what "royal jelly" is—never saw it that I know of—hence, I don't know how to place royal jelly in queen-cells, and don't know where nor how to obtain it. I have read several little pamphlets on bees, and while they mention royal jelly, they do not explain what it is or how obtained.

3. Recently I have, for the first time, tried my hand at transferring bees from box-hives to frame hives. I transferred a colony to-day, and got stung only once, when I had gotten careless as I was finishing up. I divided 2 colonies, and as I wanted the bees to have queens, and as soon as possible, I selected pieces of comb with queen-cells about 2 or 3 to the colony, and put eggs and young larvæ in the cells. The way I made some (eggs) stick was to put a little honey or pollen, and once or twice I touched the instrument used to get the eggs out to my tongue, and then to the bottom of the queen-cell; once I peeled out the thin skin inside the (worker) cell containing the egg, and stuck that to the pollen placed in the queen-cell. In placing the young larvæ in queen-cells, I just removed them with the milky fluid in their cells with them, and it would hold them in the queen-cells. Please criticise the above methods of procedure, and indicate what was wrong in each, and the probability (and relative probability) of any, all, or each resulting in the rearing of a queen, and say whether any plan followed as indicated above would likely expedite the rearing of a queen by a queenless colony?

4. If you divide a colony and give one part (of course) only comb containing honey, pollen, eggs, larvæ and brood in all stages, would such a portion undoubtedly rear themselves a queen?

I have lots of other questions I'd like to ask, but "do unto others as you would," etc., and I'm not quite sure I'd like to answer questions indefinitely, and over and over, and so thanking you for your kindness and patience, if you have read them, I will "ring off."

Seeker.

Answers.—1. I can answer your question in the fewest words by saying that I'm keeping bees for the sake of the honey, and I think I can get the most honey by trying to keep Italians. Please notice that I don't say by keeping Italians, but by *trying* to keep them. That's what I've been doing most of the time for years, although for several years I've introduced no fresh Italian blood, but have bred from those colonies that have given best results in storing, no matter what the blood. That means that my bees are mostly grades, or crosses between Italians and blacks, although the Italian blood predominates. But for the last year or two they have become very cross. Partly for that reason, I expect to rear some queens from pure Italian stock, allowing them to mate with my grade drones, and see what the result will be. Perhaps a stronger reason for my doing so is that J. E. Crane of this country, and F. W. L. Sladen of England—two good authorities—say that by doing so I will get more honey than I would get by continuing my crosses alone; and also that it will give me more honey than I can get from pure Italian stock. I may say that my present bees are such hustlers that I have no special complaint to make against them except that they are so cross. It is just possible that the introduction of Caucasian blood might be as good or better than Italian, but at present our knowledge of Caucasians is very contradictory and hazy. Cyprians are ill-tempered, and Carniolans too much given to swarming, even if they were any better gatherers than Italians.

2. In your 3d question you speak of the "milky fluid" about young larvæ. Well, that's the same as royal jelly, only it isn't called royal jelly except when in queen-cells, where you find it in much larger quantity. In other words, the material put in queen-cells to feed the royal larvæ is called "royal jelly."

3. It's a little hard to understand just what you mean when you say you put 2 or 3 queen-cells in a hive and then put eggs and larvæ in them. Probably you mean you took cell-cups; that is, the beginnings of queen-cells, which are something like the cups of acorns. I feel pretty safe in guessing that the bees refused to accept the preparations you made for them. Neither honey, nor pollen, nor human saliva would be likely to appeal to them as the proper thing to go into a queen-cell, and the great probability is that the eggs and larvæ were unceremoniously hustled out. I do not know that eggs have ever been successfully transferred into queen-cells, and even if the bees would accept them it would be better to use the very small larvæ, both because larvæ will more readily remain in the cell, and because there is a gain in time. Just one case may have been successful, where you say you "peeled out the thin skin inside the worker-cell containing the egg." If you took enough of the cocoon to make a little cup, so the egg or larva was not in the least detached, it may be the bees accepted. But no pollen should have been put with it. Next time try putting in a little royal jelly before putting in the larva, or else take the larva alone. You'll find plenty of royal jelly in queen-cells in a hive from which a prime swarm has lately issued.

4. In most cases the bees would probably desert, making the whole thing a failure. If imprisoned for 2 or 3 days, they would be likely to rear a queen. But a nucleus is not the proper place to have a queen-cell started if you want the resulting queen to be good for anything. A full colony is none too strong for such purpose.

There is not much likelihood that questions will become wearisome on account of sameness; the main point to look after is to safeguard the interests of the readers by not having too much with which they are already familiar from study of books on bee-keeping. There are questions galore arising after such books have been well studied, and they are always welcomed in this department, whether they can be answered or not. For it must be remembered that the stock of questions outnumbers that of answers.

◆

Breeding from Good Queen, but Impurely Mated

On July 24, 1905, I received a queen from the Atlantic Coast, and to make sure not to have her killed, I took from a hybrid colony 2 frames of sealed brood and made a nucleus and put her in. I kept on feeding the nucleus until late in October. I also gave her more brood in August, and at the time I quit feeding her daily she had a rushing colony. The queen was a pretty one, and has proved a layer of the best, and her bees are good honey-gatherers. I asked the breeder to clip her, and on the cage was marked, "Clipped Queen." I did not examine her closely, thinking he had just clipped one under wing, for the sake of looks. All the bees were uniform in color that hatched from her brood. The queen was said to be a $5.00 breeder.

In early spring, when cleaning out the hives, I did not closely examine her either, but clipped her the way I generally do, so flight was then impossible. She is still a good layer, and her bees fine honey-gatherers, but she turns out bees of all the colors of Joseph's coat.

1. Is it possible she has been able to fly, and mated a second time, last fall?

2. Or, is it possible that a queen not purely mated will for a time lay eggs that will produce brood that way?

3. The bees could fly all winter, and no brood has been given her since August. Could as many as over one-half of the bees be below the standard in color, or hybrids yet, from the brood given last August? That seems to me impossible, as she has, this spring, filled a 10 frame Langstroth hive with brood, and in many cases clear to the top-bar.

4. Would you advise me to breed from her on account of her good quality, in spite of her impure mating? I would have been glad to requeen all my colonies from her, if she had been purely mated.

Washington.

Answers.—1. It is, to say the least, extremely improbable. The long journey in the mail would not have the effect to make a second mating necessary, as you suggest in your postscript.

2. Neither would she be likely to produce for a time bees uni-

formly marked and then go into the Joseph's coat business afterward.

3. No, it is not likely that the colony is at present more than half made up of bees from brood given last August or sooner.

There is a bare possibility that some time this spring a stray colony may have swarmed out, either in your own apiary or elsewhere, entering and uniting with this colony, thus accounting for the off-color bees. A more likely solution of the problem, however, is that the queen was superseded last fall, and the present queen is her daughter. You say that without examining her closely this spring you clipped her the way you generally clip. So you are not sure that she did not have whole wings when you clipped her; and the probability is that your clipped queen was gone and this was a new queen still having wings entire.

4. If she produces bees of exceptional character as honey-gatherers, it might be well for you to breed from her in spite of the color of her bees. But it is hardly fully settled as yet just what is the character of her bees, for you can only pronounce full judgment after the colony is made up entirely of them, and throughout the spring and up to lately a good many of the old bees were in the hive.

Reports and Experiences

Prospects Good for Honey.

Bees wintered poorly, but they are building up nicely now. Fruit-bloom has just gone and dandelions are in full blast. Raspberry and blackberry bloom will soon be here, with a splendid crop of white clover, but it will not bloom much for 2 or 3 weeks.

Barnard, Mo., May 13. S. A. MATSON.

No Swarming Yet—Hope Varies.

The spring began well, and the strong colonies required a second super about the middle of May, having filled a 10-frame Langstroth hive. Hope ran high, but rain set in, and it has rained until to-day, when it cleared off a little; but hope is now rising again. I have not had one swarm this spring, although the colonies were pretty strong in bees and brood the first part of April.

Grays River, Wash., May 23. O. K. RICE.

Bees Working Vigorously.

My bees came through the winter all right, but as a rule bees came out of winter quarters a little weak. Fruit-bloom and dandelions are on now, and the bees seem to work with great vigor.

I still have the bee-fever, and can't do without the American Bee Journal.

Darlington, Wis., May 28. JOHN CLINE.

Frost and Drouth—No Honey.

There will be no honey in this locality this year. Frost and drouth have done their work, and done it thoroughly. Grass is dying, and the hay crop is a failure. The scattering heads of white clover are as honeyless as red-top. Two frosts this week. This side of the earth must be a good many millions of tons lighter than it was a year ago, when we were drenched with rain almost every day. I am glad we have a *big* country.

W. J. DAVIS, 1st.

Youngsville, Pa., June 11.

Cutting Section Foundation.

I will give a fast plan of cutting foundation for sections—possibly a new way; anyhow, I have never seen the plan in print.

Make a miter-box as long as a sheet of foundation and a trifle wider, and 1 inch deep. Make as many saw-kerfs in it as you want to make pieces out of a sheet. (I make 5 pieces of a sheet foundation.) Pack one-half dozen sheets or more in the box, and see that they are packed in straight, get a long-blade knife, (preferably a thin blade), heat it over a lamp chimney, then proceed to cut the foundation. The knife must be pressed straight down through the foundation and raised straight back again as quickly as possible to prevent the melting of too much wax, which will stick the foundation together. A little practice will enable anyone to cut without getting the ends of the foundation stuck together with melted wax.

To make fast work with this plan, the lamp should be arranged so that you can have the knife blade lying over the top of the chimney, getting hot while you are packing away the foundation you have cut, and refilling the box again. I have used this plan 2 years, and I can cut foundation at a very rapid rate. I don't think "locality" will interfere with this plan!

Auburndale, Wis. FRANK STOFLET.

Timothy Chaff for Packing Bees.

My bees and the white clover are both in excellent condition, so I am expecting a honey harvest. I lost 2 colonies (both were queenless) in wintering 140 packed with timothy chaff on the summer stands. I think it is the best packing that can be used.

Bethlehem, Iowa, May 16. J. C. DAVIS.

Capping-Box — Transferring Larvae.

On page 462, readers are invited to send in descriptions of anything in common use with them that is likely to be of general benefit. I haven't much to offer, but here it is for what it may be worth.

To make a cheap capping-box for a small apiary get 2 hive-bodies that have been in use 2 or more years; a sheet of excluder zinc, a sheet of tin, and strips to go around the hive-bottoms. Bevel the upper edge of 1 box on the inside, turn it over and nail the tin on the bottom, using the strips. Put a 25-cent faucet in one end, if you want to. Nail the perforated zinc on the bottom of the other box with the strips, lay a rest-board on the rabbets, and it is done, though it may be necessary to wax the corners of the lower box. The strips should be sawed about ½ inch thick, the nails should be 4 d's, and a very little white lead should be under the tin.

To transfer larvæ, use No. 30 wire a little more than an inch long and fastened to a little handle to which it stands at an angle of 45 degrees. About 1-16 of the end is bent to nearly a right angle. Since my eyes are losing their youth, I find it easier to transfer eggs than larvæ. If put into polished cups, they are all right.

Otterville, Mo. E. W. DIEFENDORF.

Perhaps a Superseded Queen.

I have had some new experience, and would like to have some of the wise bee-men pass their opinion on it.

In the spring of 1905 I sent for a breeding queen along in July, and the 23d or 24th I received, to all appearance, a very fine queen, clipped as I had asked, but it did not show, so I thought he had clipped only one under wing, and did not examine that very closely. I introduced her to a 2-frame nucleus full of brood, and later gave her 2 more frames of sealed brood. She began to lay, and having no field-bees, I fed right along to get her a strong colony for winter. The winter was mild, and the bees were on the wing every week all winter, and began gathering pollen February 14.

On April 16, 1906, I cleaned out all the hives and clipped all the queens of last summer's rearing, and also the one referred to above. So I am positive she could not fly after that time. The bees of her brood that hatched out in the fall were very fine, but I notice they are becoming more and more hybrids. The colony is strong, and have filled a 10-frame super (50 pounds), but they are all colors from 4 and 5-banded to pure black, and now the question is: Is it possible that this queen may have been able to take wing and mate a second time? It is the same queen all right.

Grays River, Wash., May 17. O. K. RICE.

False Indigo.

I enclose a sample of a honey-plant that blooms between fruit and clover. We call it "beaver brush." It grows along the creek-bottom in bunches, like the willows. It is hard wood, and just fills the interval between the fruit-bloom and white clover. It is a splendid honey and pollen plant.

Arden, Neb., June 3. W. H. MILLS.

[The enclosed sample is the False Indigo—*Amorpha fruticosa*—and belongs to the Pulse family. This is a very "sweet" family, containing the clovers, vetches, locusts, lupines, and others of equal merit among bee-men.—C. L. WALTON.]

Too Cold and Dry for Bees.

We are having a cold June here so far, and it is so dry that the bees are barely making a living. I have not heard of a single new swarm here yet. White clover—our main honey-plant—is nearly killed out by the drouth. Unless we have rain soon, bees will have to be fed.

Mt. Pleasant, Iowa, June 12. J. W. STINE.

Most Extraordinary Season

Up to the latter part of March the prospects were indeed for a phenomenal honey season here. Everybody thought that fortunes would be made this year, and consequently greater supplies of materials were laid in than in any previous season. From March 20th to 27th we had an exceedingly heavy rain—from 10 to 14 inches—which did much damage to the roads. Then began a spell of cold, cloudy and foggy weather, which lasted for just 9 weeks, in which time the sun was out for only a few minutes, if at all. The bees behaved themselves peculiarly. In some apiaries they swarmed before the heavy rains of March. I had 7 swarms before March 20, and 22 swarms from March 27, to April 21, and then none until May 22. In other apiaries they did not swarm at all, or began only the past few days.

Black sage began to bloom early, yet only a few flowers on each button, and no nectar to amount to anything. The nights have been cold; in fact, it is the most extraordinary season that we have ever seen here. I am of the opinion that we will not have an average honey-crop. During the past 3 days we have had sunshine, but the nights are still cold.

DR. PHIL. MAX BOELTE.

Valley Center, Cal., June 7.

Colonies Strong, and No Swarming

Bees are quite strong, and no swarming. A constant run of eccentric weather seems to extinguish the impulse—else starves it out. Conducive to great (in your mind) success to the new anti-swarm methods, may be.

Toledo, Ohio, June 18. E. E. HASTY.

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From our fine strain of 3-band Italians, that are unsurpassed as honey-gatherers. Try them; they will not disappoint you. Send for price-list.

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JOHN DOLL & SON, PROPRIETORS
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OTISVILLE, PA., Jan. 18, 1904.

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for the SOUTH
as 'most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed
Catalog mailed free.
Send for same.

Let me book your Order for QUEENS bred in separate apiaries the GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.
For prices, refer to my catalog, page 29.

C. H. W. WEBER
CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, June 22.—The demand for honey, both comb and extracted, is slow. Fancy comb brings 15c per pound; No. 1, 14c; off grades, 10@12c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c. R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, May 12—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, June 20—There is no new honey arriving in this market as yet, and so few lots of old honey that we cannot establish any price. Some little lots of Southern extracted honey have arrived in barrels. We quote: New Southern extracted, light amber, 6½c; amber, 6c. Beeswax selling freely at 29c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
HILDRETH & SEGELKEN.

CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, May 31.—The honey market here is bare, no new honey in market yet. The market is about $3.25 per case on fancy white. Extracted, 5½@6c. On account of the warm weather and heavy receipts of fruits, the inquiry for honey is dropping off, but we believe with the advent of new honey there will be a good demand for same. C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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Yellow Sweet Clover Seed
1 lb., postpaid, 30c; 5 lbs., by express, at purchaser's expense, $1.00; 100-lb. lots, 15c per lb.
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Second Hand Empty 60-pound HONEY-CANS—two in a crate. In lots of 10, 40c per crate; 25 or more crates, at 35c per crate.
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BUCKEYE STRAIN RED CLOVER,
GOLDEN ITALIANS, CARNIOLANS
By Return Mail. Safe Arrival Guaranteed

PRICES	ONE	SIX	TWELVE
Untested	$0.75	$4.00	$7.50
Select Untested	1.00	5.00	9.00
Tested	1.50	8.00	15.00
Select Tested	2.00	10.00	18.00

Select Breeders, each $3.00
Two-frame Nucleus and nice Queen 3.00

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- ILLINOIS—York Honey & Bee-Supply Co., Chicago
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Gentlemen:—Received my sections in fine shape and am well pleased with them. They are the best sections I have ever put together. Yours truly,

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Gentlemen:—I want to say that I consider your make of sections the nearest perfect of any I have ever had. I have folded packages of 500 without breaking one, and I cannot say that of others I have used. Yours truly,

GEORGE BROWN.

◆

G. B. LEWIS CO., Watertown, Wis. Grand View, Iowa.

Gentlemen:—I have received those sections in good shape and I am well pleased with same. They are all right in every way. I shall recommend your bee-supplies to other bee-keepers. I think you make better goods than any other firm in the world. Accept my thanks.

Yours truly, GEO. B. MCDANIELS.

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Gentlemen:—The goods are simply fine in every respect. We have compared a few of the No. 1 sections bought of another firm which we carried over from last season, with your No. 2, and find that the No. 2 are superior.

Yours truly, NORRIS & ANSPACH.

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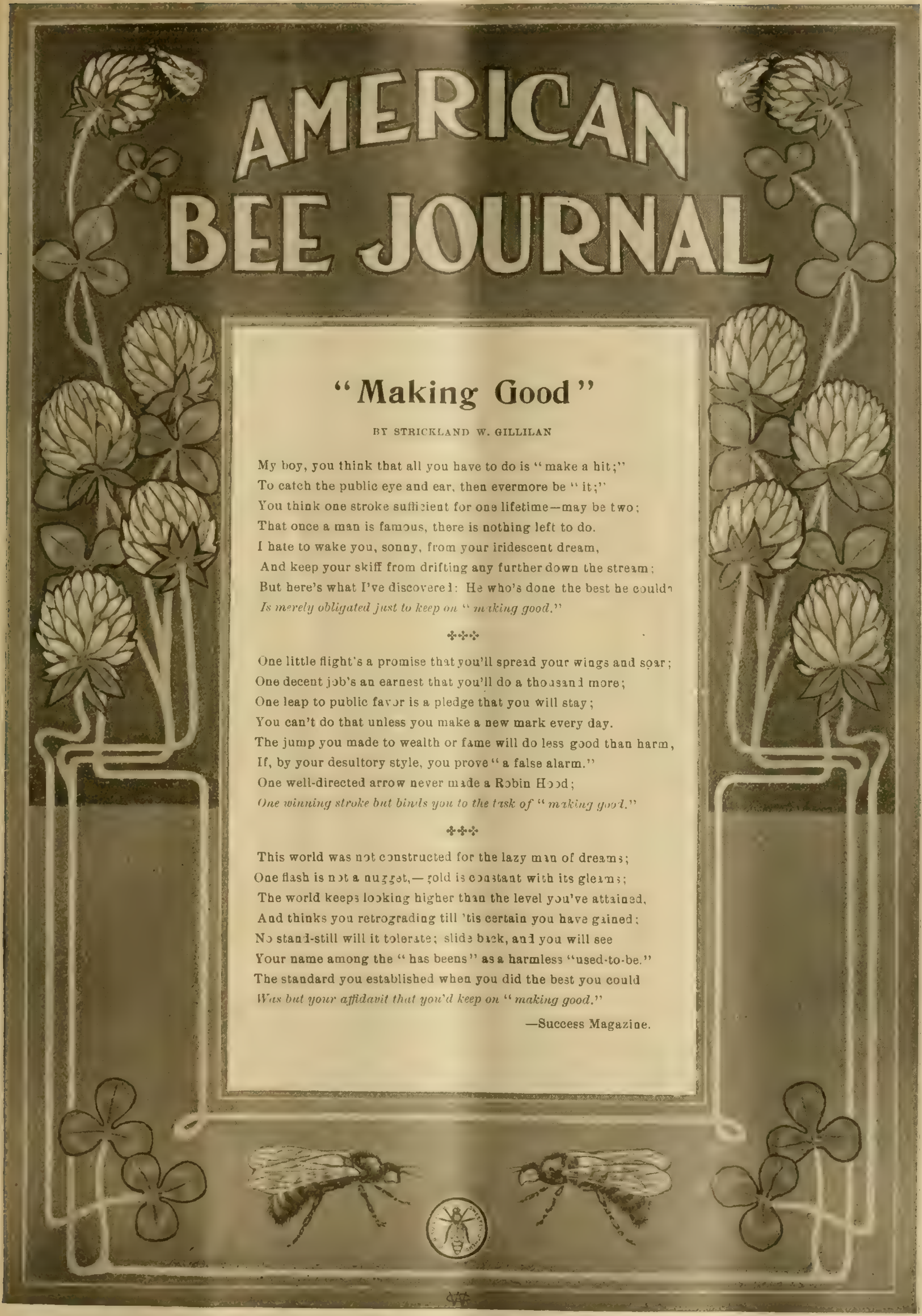

AMERICAN BEE JOURNAL

"Making Good"

BY STRICKLAND W. GILLILAN

My boy, you think that all you have to do is "make a hit;"
To catch the public eye and ear, then evermore be "it;"
You think one stroke sufficient for one lifetime—may be two;
That once a man is famous, there is nothing left to do.
I hate to wake you, sonny, from your iridescent dream,
And keep your skiff from drifting any further down the stream;
But here's what I've discovered: He who's done the best he could
Is merely obligated just to keep on "making good."

⁂

One little flight's a promise that you'll spread your wings and soar;
One decent job's an earnest that you'll do a thousand more;
One leap to public favor is a pledge that you will stay;
You can't do that unless you make a new mark every day.
The jump you made to wealth or fame will do less good than harm,
If, by your desultory style, you prove "a false alarm."
One well-directed arrow never made a Robin Hood;
One winning stroke but binds you to the task of "making good."

⁂

This world was not constructed for the lazy man of dreams;
One flash is not a nugget,—gold is constant with its gleams;
The world keeps looking higher than the level you've attained,
And thinks you retrograding till 'tis certain you have gained;
No stand-still will it tolerate; slide back, and you will see
Your name among the "has beens" as a harmless "used-to-be."
The standard you established when you did the best you could
Was but your affidavit that you'd keep on "making good."

—Success Magazine.

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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Goes to press Monday morning.

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Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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FARMER'S CALL, Quincy, Ill.

Contents of this Number

"Making Good" (Poem)........................ 1st Page

Illustrations—

Acklin, J. C.............................. 575
Green, James A............................ 579
Wheelbarrow Dadants Use in Extracting...... 576

Editorial Notes and Comments—

Black Brood in the United States—A Warning 573
Blacks vs. Italians in England.............. 574
Changeableness of Honey-Sources............. 573
Dead Brood, Not Foul........................ 573
Differentiation of Black and Foul Brood....... 573
Is Black Brood Spreading in the United States? 573

Biographs of Beedomites—

Acklin, J. C................................ 574
Green, James A.............................. 574

Contributed Articles—

Dadant Methods of Honey-Production (No. 14) 575
Relation of Bees to Horticulture.............. 576

Our Sister Bee-Keepers—

Brave Fight Against Swarming.................. 577
Gooseberry-Honey Preserves.................... 577
Honey for Burns............................... 577
Hygienic Honey Soap in France................. 577
San Francisco and a Honey-Girl Student....... 577
Sisters Prominent in Irish Beedom............ 577
Very Discouraging Prospect.................... 577
Working on Asparagus......................... 577

Canadian Beedom—

Bee's Acute Sense of Smell.................... 578
Insects' Blunders............................. 578
Why are Flowers Colored?...................... 578

Convention Proceedings—

National at Chicago........................... 579
Producing Both Comb and Extracted Honey on the Same Colony.......................... 579

Southern Beedom—

Successful and Easy Way to Work Up a Home Honey Market................................ 581

Dr. Miller's Question-Box—

Dividing Colonies for Increase................ 582
Getting Drones from a Distance................ 581
Is "Honey-Dew" Pure Honey?.................... 582
Preventing Increase........................... 582
Putting Weak Colonies Over the Strong........ 582
Queen-Experience.............................. 581
Rearing Queens in a Poor Season.............. 582

Reports and Experiences

Getting Bees Into Supers and No Swarming... 583
If Wet Enough, Good Prospects................ 583
Non-Swarming Brown or German Bees........... 583
Safe Introduction of Queens.................. 583
Transferring Larvæ with a Medicine Dropper. 583

CONVENTION NOTICE.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9 and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

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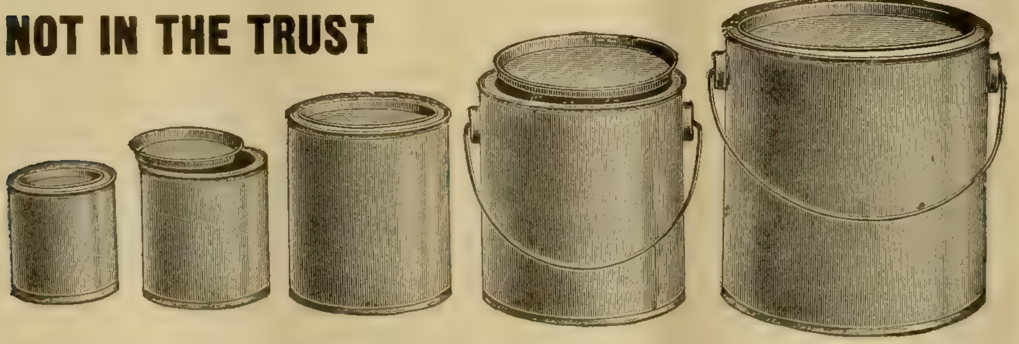

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CHICAGO, ILL., June 30, 1906.
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Among our other regular contributors are Mr. J. A. Green, Dr. C. C. Miller, E. W. Alexander, and many other bee-keepers of note.

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Sections are in great demand at this season of the year. We are running full capacity, but can hardly supply the call for No. 1 Sections of all sizes.

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GERMAN BEE-BRUSH

Some months ago Mr. R. F. Holtermann called our attention to a bee-brush which he received from Germany, made of genuine bristle or horsehair. He had used one a whole season, washing it out often, and it appeared to be as good at the end of the season as at the beginning. He considered it so far ahead of anything he had ever seen or used that he wanted no other. We concluded if it was so good for him it must be equally good for others. We are now provided with a stock which we offer at 25 cents each; by mail, 30 cents. The bristles are black, and about 2 inches long, extending 8 inches on the handle. Made of white hair it would cost 5 cents more.

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GEORGE W. YORK, Editor CHICAGO, ILL., JULY 5, 1906 Vol. XLVI—No. 27

Editorial Notes and Comments

Changeableness of Honey-Sources

Editor Hutchinson has the following editorial in his last Bee-Keepers' Review :

> Very few of the honey-sources remain the same for a long term of years in the same locality. Probably white clover comes as near doing this as any of the honey-plants. The sages that grow in the mountain canyons of California have furnished honey for many years, and probably will continue to do so, as the steepness of the mountain sides prevents their being plowed up. The same might be said of the clover upon the hillsides of old Vermont; but, in many sections of the country, the sources of the honey-supply are continually shifting. For instance, in some parts of Northern Michigan the basswoods once furnished bountiful harvests of honey; then came the lumberman's ax and cut them away. In their wake came the raspberry, which furnishes a larger and surer harvest; but it is only a question of time when the farmers' plow will root out the berries, and their place will be taken by the clover, that even now comes creeping in.
>
> In some parts of New York buckwheat is now the main source of honey supply—what it was years ago I don't know—possibly basswood and clover.
>
> In many parts of the West irrigation was followed by the cultivation of immense fields of alfalfa, from which the bee-keeper has reaped a bounteous crop; but the tendency of late, on the part of the farmer, to cut the alfalfa early is lessening the yield of honey, and the outcome is somewhat uncertain.
>
> A new or timbered country always furnishes different sources of honey than abound after the country is cleared. Civilization brings the fruit-bloom, the alsike and white clover, the buckwheat, the sweet clover, etc.
>
> The bee-keeper who expects to succeed must study all of these things, and govern his actions accordingly. Don't buy land and put up expensive, special building, cellars, etc., in a locality where the bee-pasturage is likely to pass away in a few years.

Mr. Hutchinson has, in the foregoing, called attention to an important matter. And yet, Dr. Miller secured his largest crop of honey in 1903, in a locality which is quite thoroughly tilled by the farmers. It seems that Nature has so ordained that when there is a lack or shortage in certain directions there are other things that make up for it, so as to sustain a somewhat even balance.

Some 20 or 25 years ago there were good honey seasons in succession, and then came a series of almost total failures. Some began to enquire, Will the good honey seasons ever come again ? and seemed to argue that it was quite possible that they might not. But they did come again, and so abundant that 1903 was considered the greatest honey-year ever known in this country.

There are a lot of things about which most of us "don't know" anything very definite. And the future honey-seasons is one of them.

Black Brood in the United States—A Warning

The following is an editorial that appears in Gleanings for July 1. It was considered so important that an advance proof was sent to us so that we might also get the warning to our readers as quickly as possible :

> IS BLACK BROOD SPREADING IN THE UNITED STATES?—A NOTE OF WARNING.
>
> Anywhere from one to half a dozen specimens of affected brood are being sent us every week during the summer. I have been fearful for some time that, in addition to the regular foul brood, so named in this country, we have been getting specimens of black brood, or what the United States and Cornell bacteriologists call the European foul brood. During the last 30 days we have been handing in several suspicious samples to Dr. E. F. Phillips, of the Department of Agriculture, Washington, D. C., who, in turn, handed them over to the Government Bacteriologist. The reports that I got back were somewhat alarming. One specimen of brood from Illinois, and 3 from Pennsylvania were pronounced to be black brood I feared as much when I forwarded the specimens to Washington. Other specimens have been found in California.
>
> I have just examined 2 specimens sent from Michigan, which, I think, are black brood, without question.
>
> When I first received this report from Washington I was a little uncertain what to do; but the more I thought of it the more I became convinced that I ought to inform the bee-keepers of those States that the insidious disease is lurking in their borders.
>
> When it is remembered that black brood came very near wiping out bee-keeping in New York, and that it was only by the most strenuous efforts on the part of 4 of the best inspectors in the country that it was brought under control, the bee-keepers of these other States may well pause and ponder.
>
> I would respectfully urge every bee-keeper to keep a tab on the brood in his yård. When he sees any unsealed dark-colored brood, especially if it be of a coffee color, yellow or brown, and finds, further, that it is accompanied by a sickening or foul odor, he would better send a sample of the brood *without any honey* at once either to Washington, D. C., or Medina, Ohio. But in any case send it in a *stout wooden or tin box, the whole wrapped in heavy manila paper.* Besides using a strong box, wrap the brood itself in paraffined or oiled paper. It is not necessary to have a large sample of brood; but hunt up a small wooden or tin box and cut the brood to fit, so it will go in without crowding after it has been wrapped in paraffined paper.
>
> Remember to send *brood only*, and *no honey* with it, for the honey introduces an element of danger to the recipient. *Brood samples put up in paper, or paper boxes, we shall not examine, but burn them before unwrapping ; so don't send them.*
>
> When sending samples be sure to put on your own name and address. About half a dozen of the samples sent us were not marked. As we are getting a good many every week, absolute identification of each sample is rendered difficult, if not impossible.
>
> DEAD BROOD, NOT FOUL.
>
> Shortly following a chill or cold spell in the East, quite a number of bee-keepers reported a quantity of dead brood. One or two apiaries seem to have had a large amount of it. Samples of the brood were sent here, and we diagnosed them as dead or poisoned brood. They were sent, one to N. D. West, of Middleburg, N. Y., and the other to N. E. France, of Platteville, Wis., foul brood inspector of Wisconsin. Both men confirmed our diagnosis. On receiving the samples we wrote all the parties that we thought it was nothing serious; that it would all disappear in 10 days or 2 weeks. Happening to be in the East lately on special business, I visited one or two of the affected yards, and found, as I suspected, that the bees were coming out all right. The brood that had died seemed to be all of one age. All new brood was healthy, and seemed to be in first-class condition.

THE DIFFERENTIATION OF BLACK AND FOUL BROOD.

The two diseases, black and foul brood, have several symptoms that are alike. For example, the general appearance of a comb affected with either disease—perforated and sunken cappings, yellow, brown, or coffee-colored larvæ—is about the same. Black brood and foul brood both have distinctively a disgusting odor, and the odors of both are alike, or very much so. The foul brood with which we have been most familiar smells like old glue, while the diseased matter from *black* brood has a little more (or at least to me) of a putrid smell. But the main point of difference, so far as I know it, is that one ropes and the other does not. The dead matter lying in the cells of foul brood will string out like spittle, from half an inch to an inch from the cell, when a pin is immersed in it and slowly withdrawn. On the other hand, black brood ropes not at all, or very slightly, seeming to have a more jelly-like or watery consistency.

Some pickled brood looks very much like black brood; but it does not have the odor of that disease. I was formerly under the impression that only pickled brood would show mold; but in this Dr. Phillips says I am in error, and I have since seen genuine specimens of black brood that would have considerable mold over the surface of it. In a word, the mold has nothing to do with the diagnosis, as it may be found with any specimen of dead brood—especially so if the specimen has been confined in a damp, cool place.

There is another difference between the general character of the larvæ of black and foul brood, but I am not enough of an expert to state the precise differentiation. E. R. ROOT.

Medina, Ohio.

This certainly is an exceedingly important matter, and it behooves bee-keepers everywhere to be on the alert in regard to it. Remember that samples of suspected brood can be sent for identification of disease, to either E. R. Root, Medina, Ohio, or Dr. E. F. Phillips, care Department of Agriculture, Washington, D. C. Be sure to remember the explicit directions as to packing and mailing the samples.

Blacks vs. Italians in England

In this country very few can be found who prefer blacks to Italians, while in England blacks are generally in favor. Mr. F. W. L. Sladen, an authority in England, holds the same view as our Mr. J. E. Crane, that the most honey can be obtained by rearing queens from pure Italian stock and mating them with good grades. He says in the British Bee Journal:

> The prolificness, beauty, and good temper of the Italian bee are undisputed; but conflicting opinions as to its honey-producing value appear in our journals from time to time. The difference of opinion is partly due to the fact that some writers do not clearly distinguish between the pure Italian bee and the crossbreds between the Italian and English bee.
>
> The average yield of surplus honey from colonies of pure Italian bees is, in my apiary, not quite so much as that from colonies of English bees, the difference being greatest in cool and windy weather in spring; but the average yield from colonies of the crossbreds is considerably greater than that from colonies of English bees.

Miscellaneous News-Items

Prof. A. J. Cook, who has spent the past year in study and investigation in Germany, expects to sail from Liverpool, England, on July 11, and to reach the United States about Aug. 15.

The Bee-Keepers' Demonstrating Field-Meeting, held at Jenkintown, Philadelphia, June 26, by the A. I. Root Co., was attended by 800 persons. We have not heard any further particulars at this writing, but infer that it must have been a success.

Bee-Supply Firm Burned Out.—On the morning of June 20 a fire started in the basement of the building at 141 Ontario St., Chicago, the second floor of which was occupied by the York Honey and Bee-Supply Co., of which H. M. Arnd is the proprietor. It resulted in practically a total loss, with a fair amount of insurance. As a result, Mr. Arnd has secured larger and better quarters on the first floor of the building at 191 and 193 E. Superior St., Chicago, 3 short blocks north and 1 block east of the former location. A new stock of goods has been put in, and everything is ready for business again, just the same as before the fire.

Having suffered, ourselves, from a fire when in the bee-supply business some years ago, we know how to sympathize with Mr. Arnd. However, he has taken hold courageously, and with the kindness of the manufacturing firm whose bee-supplies he handles, he is in a position to go forward with even greater success than heretofore. Mr. Arnd has worked hard to establish himself in business, and is deserving the patronage of bee-keepers. (See his announcement on another page.)

Mr. Arthur L. Boyden, Secretary of the A. I. Root Co., with Mrs. Boyden, passed through Chicago last Thursday evening on their way to the Pacific Coast, where they will spend a short time.

Mr. C. P. Dadant, President of the National Bee-Keepers' Association, writing us June 26, said that he had been laid up for about 10 days with rheumatism—some sort of lumbago—which was very painful.

Bee-Supply Mailing-Cards are being used quite extensively by the G. B. Lewis Co., of Watertown, Wis. The last one we have seen has on it a good picture of an open crate of 500 of their fine sections, with prices on 100 up to 50,000. It also shows a list of their principal agents. Such cards ought to be a great help in reminding bee-keepers where they can get good supplies promptly.

General Manager N. E. France, of Platteville, Wis., writes that he has just returned from a long trip over that State, and finds that a small part of northeastern Wisconsin promises a honey crop this season. For himself, he says there will be no honey. Many reports have been received by him, nearly all of which tell the same story—not much if any honey as yet. It is to be hoped that the recent rains may help some, and also that there may yet be the right kind of weather for a honey-flow.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with $1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for $1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

Biographs of Beedomites

JAMES A. GREEN

Mr. James A. Green's latest picture appears on page 279. The original was taken by Mr. Green himself last winter. It is something of a novelty photographically, as it was taken entirely by himself, no other person having had anything to do with it, or even being present when it was taken. It must have seemed strange to Mr. Green to "look pleasant" all by himself.

Mr. Green, some years ago, was one of the leading bee-keepers of Illinois, and since going to Grand Junction, Colo., he, of course, is one of the best bee-keepers in that State. He is an excellent writer, and thoroughly progressive and up to date in bee-keeping. We believe his comb honey exhibited at the St. Louis Exposition in 1904 won the gold medal.

When sending us his photograph on June 16, Mr. Green wrote as follows:

The bees have not done very well this year so far, having been generally in rather poor condition to start the season. Three of my apiaries are doing very fairly, but the other 3 not nearly so well.

Prospects are not of the best either, as grasshoppers are very numerous and may eat up the sweet clover.

The first crop of alfalfa has been cut, and but little surplus honey was secured from it.
J. A. GREEN.

J. C. ACKLIN

Several weeks ago we announced the sudden death of Mr. Acklin, at St. Paul, Minn. Since then we have received the following brief biographical sketch from one of his most intimate friends, the Rev. Chas. D. Blaker, pastor of the Richfield Baptist Church, near Minneapolis:

J. C. ACKLIN

The death of Mr. J. C. Acklin came as a great surprise to his many friends. On May 25 he was apparently as well as usual. He ate a hearty supper, after which he went to deliver a colony of bees to a customer living at Highwood—a suburb of St. Paul. After he had put the hive in place, and was about to leave, he was stricken with apoplexy. He became unconscious before Mrs. Acklin could reach his side. He was taken to the hospital, where he passed away the next morning (May 26), not having regained consciousness.

Mr. Acklin was born in Fayette Co., Pa., March 22, 1852. Before leaving his native State he was engaged in the carriage business with his father. For several years after coming to Minnesota his business was that of general contractor and builder. He was then employed by the Great Northern Railway Co. as lumber inspector. About 6 years ago he relinquished his position with the railroad company in order to devote his whole time to the bee-supply business, which Mrs. Acklin had started 7 years before. He had charge of the Northwestern Agency of the A. I. Root Co.

Mr. Acklin has been a member of the Minnesota Bee-Keepers' Association since its organization, and an officer of the Association for the past 6 or 7 years. He will be greatly missed by all the friends of the Association. He devoted much time each year to the preparation of the annual program and in looking after the interests of the Association in general. He was absent from only one of its sessions, at that time he and his family being in California.

Mr. Acklin was a man of sterling character, a devoted husband and father. He was an active member of the People's Church of St. Paul, and the Treasurer of its Sunday-school. He leaves a wife, who has been indeed a true helpmate to him, and a daughter, Ethel, who is 13 years of age, to mourn his loss. They have the sympathy of a large circle of friends who mourn with them in this hour of bereavement.
CHAS. D. BLAKER.

In a private letter to us Mr. Blaker writes this paragraph:

"A good man has closed his labors here to enter upon the life eternal. He was a man who was not ashamed to be known as a disciple of the Lord Jesus Christ. His death is a great loss to us all."

As mentioned in connection with the announcement of Mr. Acklin's death in a previous number of the American Bee Journal, we were personally acquainted with him for a number of years, as well as with Mrs. Acklin and their daughter Ethel. We had met the family at various State and National conventions of bee-keepers, and also at the Minnesota State convention held in Minneapolis a year ago last December. We also have had the pleasure of meeting the Acklin family in their pleasant home in St. Paul, where their friends and guests were given the widest kind of hospitality. Ever since meeting Mr. Acklin we have counted him as one of our strongest friends, and so feel the loss perhaps as keenly as any one outside of his immmediate family or relatives.

We are glad to know that Mrs. Acklin will be able to continue their business with the assistance of the young man who has been with them for many years.

The Minnesota Bee-Keepers' Association will miss the active help and interest of Mr. Acklin, as he was one of the moving spirits of that organization.

As all of us grow older, more and more our friends of many years are rapidly passing away. Perhaps this is more noticeable in an office like ours where so many deaths of those prominent in beedom are reported. As it becomes our duty in many cases to announce these sad events, of course they are impressed upon us more, perhaps, than on any one else outside of relatives and intimate friends. As it has been our privilege to meet so many of the leaders among bee-keepers at various conventions during the past 12 or 15 years, we have come to know them personally in a way that makes us feel doubly their loss when any of them are taken away. We recall quite a number who, during their lives, helped to make bee-keeping and bee-literature what it is to-day. There was Langstroth and Newman; Chas. Dadant and Dr. A. B. Mason; Capt. Hetherington and Dr. Gallup; and many others who might be mentioned. And likely during the next 10 years there will be added to the increasing list of departed ones many who to-day are leaders in our chosen field of apiculture.

Perhaps in no other field of human endeavor are there so many good, clean men and women as are to be found in the ranks of bee-keepers. We know that nowhere outside of the conventions of religious organizations do we find as high and noble a class of people as at bee-keepers' conventions. It certainly means a good deal to be able to say so much as this; and yet why should it not be so? There is certainly no other business more cleanly and elevating in every particular than that of the care of bees and the production of honey. Whether or not bee-keepers are a "sweet" people, they ought to be such, if they partake of the nature of their business and product. Surely, they ought to be clean in habits and character, for the inspiration to such qualities should come from the lessons to be learned from the life and work of the bee itself.

Contributed Articles

14—Dadant Methods of Honey-Production

BY C. P. DADANT.

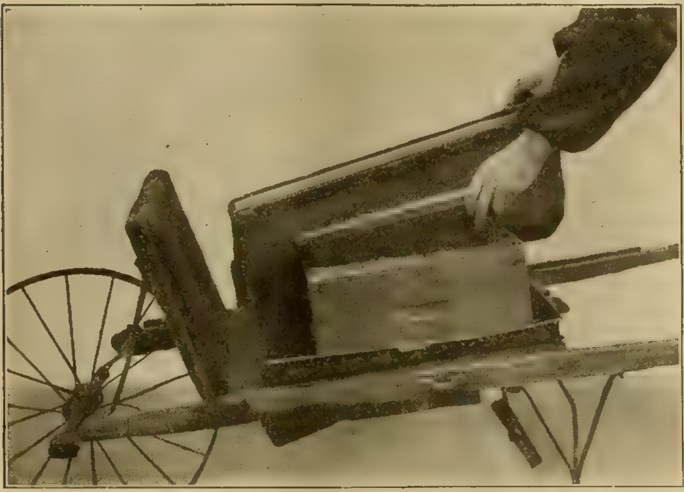
IT seems as if we would have a very good chance to talk about harvesting honey and removing the surplus this year, for we will not be very busy, and there will be no surplus to remove, if the summer continues as dry and cool as it is at present. But these are the very days when it is well to talk it over. Another season may keep us so busy *doing* work that we will have no chance to talk about *how to do it*.

By the way, just let me say that I have seen the real honey-dew without aphides, on acorns, lately. This morning I passed under an oak-tree which had dripped the dew in large drops to the sidewalk, and the bees were exceedingly busy on that tree, around the acorns. The days are warm, the nights are cool, and this proves the correctness of the statement made, some years ago, by Gaston Bonnier, of Paris, in his work, "Les Nectaires," that "honey" is often produced by what he calls "extra-floral tissues" in some trees; this production of extra-floral honey is hastened and increased by sudden changes of temperature that prevent the flow of the sap to the end of the buds. It is thus caused to ooze out through unusual channels.

Let us return to the removal of the surplus honey. Many apiarists arrange to have their colonies located above the honey-house, so that there may be no necessity of carrying or dragging the crop uphill; others—but they are not very numerous—have arranged a system of rails upon which they run little cars to take the honey from the apiary to the honey-house. I confess, we have never yet practiced bee-culture on so modern a scale. We have, however, always aimed to keep our hives in an accessible place, and have tried to keep our honey-house on a level with the apiary. But in our home apiary the honey-house is a few feet above the apiary, and we find no difficulty in transporting a large crop from the hives to the extractor. For this purpose we use a wheelbarrow, on which the supers are placed.

On extracting days, the first thing our boys provide is a half-dozen brushes made of some green material, usually asparagus tops, and sometimes other weeds. Good brushes are sold in Europe, that are soft and efficient. I hope that brushes will be made here, sooner or later, that will be serviceable. Those now sold are either too firm or too irregular to give very good service. Some people use a goose wing or a turkey wing. These things are not good, for they anger the bees.

If the Porter bee-escape is used, no brushing will be needed, but we do not like to use the escape in very hot weather, as it closes the super entirely and excludes ventilation from it. In cool nights of summer or during the fall, the bee-escape is quite useful. We place them on the hives the previous evening. We have about 60 at each apiary, and it is not a very long job to place them on. But when the out-apiary is far away, it requires going there one day ahead of time.



WHEELBARROW DADANTS USE IN EXTRACTING.

When the bee-escapes are not used, if the crop is at end, it is necessary to use a great deal of caution not to incite robbing. So we use what Dr. Miller calls the "robber-cloths," made strong gunny or sack cloth folded double and tacked at both ends between two slats, to make it easily movable. A shallow pan under the supers serves to catch the dripping honey in case the bees have built bridges and brace-combs. This happens only in very great years. Usually, the bridges and brace-combs are almost entirely beeswax and propolis, and do not contain any cells of honey. This is where a thick, wide top-bar shows its usefulness, for with a thin, narrow top-bar to the brood-frames we would find many more brace-combs.

When the honey is brought to the honey-room the combs are uncapped and the brace-combs scraped off at the same time from each of the frames, so that the frames are thus cleaned of any projections built by the bees, before they are returned. It is in the uncapping that we find the greatest advantage of the 6-inch extracting frame. A single stroke of the honey-knife will uncap either side neatly without loss of time or labor.

If the crop is still on, at the time of extracting, we return supers as fast as extracted. If there is no harvest, returning the super would cause too much of an uproar, and we pile them up in the honey-house till the end of the day, when all hands turn out and in less than a half-hour all the supers are put back on the hives. The excitement is great, for a little while, but as night approaches it soon subsides, and by morning everything is again quiet, for the honey has all been licked up and the cells in many cases have already assumed their cleanly appearance. The bees are indeed industrious little creatures, and never lose a minute to get things in ship-shape.

Some of the Swiss apiarists do not return the combs to the bees at the end of the last extracting, but prefer to keep them until spring, when, they say, it gives the bees some encouragement to receive the supers still sticky with honey. I do not like this method. The supers are apt to leak more or less, owing to the few drops of honey left about the edges of the combs. Then, the moisture during rainy weather renders the honey watery and causes it to run. Sometimes, during the warm days of fall, the honey that remains and gathers moisture ferments and sours. There is great danger of some of this honey being retained and mixed with the honey of the new crop the following summer, and causing its fermentation. None of these accidents are to be feared if we return the combs to the bees immediately after extracting. The bees will at once gather up everything, and what honey is left will be put into compact shape so that there is no danger of its becoming watery and fermenting.

The supers of the June crop we usually leave on the hives until the fall crop is ended. The two crops are not equally productive, the clover crop being usually the best. But we have occasionally made our largest harvest out of the fall or summer crop. Sometimes the heartsease (or *Persicaria*) yields abundantly in August. Then comes the Spanish needles, especially in flat prairie meadows and stubble, or along the sloughs of the Mississippi. So the fall crop sometimes lasts a month, or a little longer—often till frost. Hamilton, Ill.

* * *

Relation of Bees to Horticulture

Read before the Nebraska Bee-Keepers' Association by E. Kretchmer, of the Kretchmer Mfg. Co.

I SHALL not attempt to write an essay on bee culture, as more complete information on that subject may be obtained from text-books, but shall confine my remarks to the relation of bees to horticulture, and items not generally known, using only well-known information to explain my subject.

Nearly all flowers require fertilization through the medium of pollen from another flower of the same species, which is acomplished in various natural ways, some by gravity, in dropping from a higher elevation, some by the winds blowing the pollen from one flower to another. But such fertilization is only incidental, always uncertain, and imperfect.

An all-wise Creator placed nectar in nearly all flowers to entice the bees to them. He covered the body of the bees with fine hair and made their diet to consist of honey and pollen. To obtain this the bees visit the flowers to extract the nectar, and whilst doing so a single bee visits sometimes as many as 50 flowers before obtaining a load to carry to the hive. At each visit to the 50 or less of different flowers, the pollen of the various flowers becomes entangled in their hair-like covering, and in their effort to extract nectar from the next visited flower, a sufficient portion of the pollen obtained from a previously visited flower is dropped, and fertilization is thus effected. This adherence of the pollen to the hair-like covering of the bee is sometimes so complete as to change, for the time being, the color of the bee. The writer has seen bees, by nature black or brown, return to their hive colored orange, yellow, white or a mixture of these colors, so thoroughly were they covered with pollen. Not only does a bee visit a flower once, but hundreds may visit the same flower in a day, and for numbers of days in succession, and thus the most perfect fertilization is brought about.

In my earlier days, when I was as much of an enthusiastic horticulturist as an apiarist, I conducted many experiments, and made many observations, and found that during the blooming of fruit-trees, should the weather be too cool to permit the bees to fly, an imperfect fruit-crop was the result. Believing that the cool days might be the cause of the imperfect fruit, rather than the absence of the bees, I investigated a little further in the succeeding years, when the weather was pleasant for the bees to visit the flowers, by covering certain parts of blooming trees with wire-cloth or netting to exclude the bees, yet permit the free access of all pollen carried by the winds, and in every instance limbs and trees thus covered produced either no fruit or only a few small and imperfect specimens. After repeated experiments it is my candid opinion that without bees our fruit-crop would be reduced fully 90 per cent.

Not only is this true of the fruit of the orchard, but likewise with berries and vegetables. As an example, let me cite the case of Senator Swink, of Colorado, who raises melons in fields miles in length. Years ago he was afraid of even the hum of the bee. His melons were raised in several separate fields, one of which was within reach of the bees of neighbors with whom he had several stormy arguments, saying the bees carried away all the substance from the blossoms, and crop failure would be the result. But to the surprise of all that particular field yielded over 200 percent more, and far better melons than any other field. Today he owns 1,500 colonies of bees, and during the Trans-Mississippi exposition he remarked that he would keep those bees if he did not get a pound of honey; for no bees means no melons.

The idea that the bees carry away the substance from the flowers entered the head of the owner of an orchard near Friend, Neb., I believe, and to prevent it, he sprayed during the blooming of the trees with paris-green, thus killing every bee that would alight on a blossom. It was effectual in preventing the bees from carrying away the substance from the apple-blossoms, and it was just as effective in depriving him of a crop of apples whilst his neighbor had an abundance.

Permit me to explain that I am not opposed to spraying—on the contrary, I spray my fruit-trees *just before the buds open, and then wait until the blossoms fall.* I thereby obtain all the benefits from spraying, and also the faithful service of the bees.

Of late the bees have been accused of being the common carrier to spread the pear-blight, but a Mr. Johnson, of Illinois, who, it is alleged, is also an enthusiastic pear-culturist, states that pear-trees in his orchard that did not bloom and numerous limbs covered with wire-netting and not visited by the bees were affected to the same extent as trees and limbs exposed to the bees. However eager as he was to think he had discovered a remedy by excluding the bees, he now says they have nothing to do with spreading pear-blight.

Bees have been accused of damaging peaches and grapes. Let us investigate the matter before giving full credit to the accusation. The tongue of a bee is as soft as a silken thread. Its mandibles are two soft, smooth lips; so the bee is, therefore, physically disqualified to break the skin of a grape or peach. Wasps have mandibles with hard teeth-like segments to enable them to cut wood into pulp for their nests. These wasps cut the fruit, or the fruit is bruised by the wind striking it against limbs or trellises, or bursts from being over-ripe. Then only have bees a chance to sip the escaping juices, and thereby prevent fermentation and such rot as might be caused from this source.

I have repeatedly dipped well-ripened Delaware grapes into honey and laid them out for the bees. They piled on them by the thousands, each one eager to get what was to be had. They licked the outside of the grapes dry, fighting each other like mad to get the last vestige from between the grapes, until compelled to go away unsatisfied. Yet at no time did they puncture a single berry.

Council Bluffs, Iowa.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Very Discouraging Prospect

If ever there is a time when a bee-keeper is warranted in being discouraged, it is when the time of harvest is fully come, and there is nothing doing. Here it is June 15, with white clover in full bloom, and bees doing nothing. There is a very discouraging prospect for a crop at present. Bees ought to be just hustling, but instead of their busy hum in the apiary there are only a few flying in a listless sort of discouraged way, some of them occupied in killing off their drones.

Brave Fight Against Swarming

Mrs. S. Wilbur Frey, who is making a brave—and let us hope a winning—fight against swarming, says in the Bee-Keepers' Review:

> Swarming is *the* problem to solve when running for section honey. Next spring I shall put supers on all my colonies just as soon as they are strong enough to take two 45-pound supers each. Then if they will swarm after this, I will take away their old queens. After all desire for swarming has passed, I will requeen again. I requeened 300 colonies last spring, while I prevented swarming, and think I did not lose a pound of honey by requeening. Some colonies sulked and would not work, and some used all their energy in rearing brood, but would not store any surplus. This year I shall try to head off the *desire* to swarm and sulk, and, at the same time, start all at work as fast as they can occupy 2 large supers. A super that holds less than 32 pounds is "no good" here—only to cause excessive swarming.

San Francisco and a Honey-Girl Student

It seems that the San Francisco earthquake is giving one of our young sisters in California a longer time to play with the bees this summer. Miss Flora McIntyre, daughter of the man who keeps 600 colonies in one apiary, and who is now taking a college course, writes:

> I am enjoying an extra-long vacation this summer with the bees, because the big earthquake and fire sent the students all home some 3 weeks before we expected. I went across the bay to see the ruins of San Francisco before coming home. It makes one feel almost as though there were such a thing as magic, to see the busy, noisy city there on Tuesday, and on Saturday find it not there.
>
> Flora McIntyre.

Hygienic Honey-Soap in France

Savon Hygienique au Miel is advertised in Gazette Apicole de France. In plain English that means Hygienic Honey-Soap, and is no doubt the genuine article, for it seems to be prepared by the management of the bee-paper named. Honey-soap is not an uncommon thing in this country, but the honey is probably only in the name. No doubt honey in soap is a good thing for the skin, and with our improved laws, if the genuine article were put on the market it might not be difficult to prevent the use of the name with anything spurious.

Sisters Prominent in Irish Beedom

The sisters have quite a prominent place in the Irish Bee-Keepers' Association, as reported in the Irish Bee Journal. Two of its 6 vice-presidents are of the gentler sex; 2 of its 4 honorary secretaries; 1 of its certified experts; and 4 of its 9 life members.

Gooseberry-Honey Preserves

Use two parts gooseberry jelly to one of cheap honey. Boil on slow fire for half an hour. Skim off any froth. If carefully put up the jelly will keep fresh for a very long time.—British Bee Journal.

Honey for Burns

Children will probably always have the habit of burning fingers. Next time Johnny burns his finger, try dipping it in honey; or else tie on the finger a rag well saturated with honey.

Working On Asparagus

The bees seem to be paying a good deal of attention to asparagus, from which they get pollen of an orange color.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Canadian
Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

The Bee's Acute Sense of Smell

(Concluded from page 359.)

This year M. Plateau finally undertook to destroy all objections regarding the more or less successful artificial reproduction of a natural flower by recourse to an extremely simple idea, which enabled him to conduct similar experiments by a most delicate and precise method. He told himself that the thing that most closely resembled natural flowers was the reflection of those flowers in a plate-glass mirror. Accordingly M. Plateau placed a mirror in front of a bouquet of honey-bearing flowers. If the bees were guided by the sense of sight, they would naturally go as eagerly to the perfect reflection of the flowers as to the flowers themselves. But the bees weren't fooled. Instead of bumping their heads against the mirror, as they do against the window-pane when they want to get out of a room, they flew straight to the flowers themselves, as if the mirror had not existed.

The general conclusion drawn from M. Plateau's researches is identical with that which I formulated 25 years ago; the insects are guided toward the honey-flowers by a sense quite different from that of sight—a sense that can be nothing but the sense of smell.

This is not saying that the bees are attracted to flowers by what we call their perfumes, for perfumed flowers are not richly provided with nectar, and fragrant essences seem generally without any noticeable effect upon the bees. It is not the sense of smell as we subjectively conceive it; it is a special sense, and a particularly subtle one, that enables them to know the whereabouts of the sweets they want.

Indeed, substances which we can't possibly recognize by their odor are still found by the bees. I have frequently repeated the following experiment: Lumps of ordinary sugar, which have no appreciable odor at a distance, were placed in a dark and carefully closed tent where there was neither honey nor anything with any pronounced smell, and where the bees were not accustomed to go. The next day, and even on the second day after, the bees succeeded in finding the lumps of sugar, and recognized that they were just what they had been looking for. Gnawing with the feeble mandibles at the hard lumps, they soon learned that this process was not a practicable way to get sugar, and they then went in search of water to dissolve it, and made it possible for them to pump up the sweet liquid thus produced.

RESULT NOT ASTOUNDING.

This result, by the way, was not so very astonishing when you observe how skilfully the bees find the places where their booty lies hidden. I shall not dwell further upon this question, for I prefer to come back to that of colors. And let me remark that certain isolated observations on that had been wrongly interpreted or too broadly generalized upon.

M. Motelay once saw a common white butterfly flutter down the street and halt before a shop window, where, for a quarter of an hour, he bumped against the glass. Now this shop belonged to a florist, and there were flowers in the windows; hence, M. Motelay concluded that the sight of the colored flowers attracted the butterfly—the sight of them and not their smell—for the insect was unable to find the open door of the shop where he might have noticed the fragrance of the flowers within. As this case has frequently been cited as typical, let us look at it rather closely. In the first place, if the conclusion were legitimate, we ought to see quantities of bees, butterflies and other honey-seeking insects swarming upon the glass-panes of all greenhouses in which there are brilliantly colored flowers. Now, it is a matter of common observation that no such thing occurs. On the other hand, that little white butterfly undoubtedly saw a reflection of himself in the glass, and any one who understands butterflies knows that they frequently flutter about before their reflected selves, taking them for one of their own kind which they seek to pursue—just as you often see butterflies flying about one another in the air.

An observation more to the point is this: M. Plateau noticed a white butterfly fluttering desperately against the shop window. If ever there was a chance to verify M. Motelay's observation now was the time, and accordingly M. Plateau looked for the flowers that had attracted the butterfly. The shop turned out to belong to a dealer in household utensils, and the flowers in the window were saucepans and teakettles.

INSECTS' BLUNDERS.

Insects are capable of many blunders, and frequently make mistakes when going from one blue flower to an analogous blue flower of the same type, but not the same species. Rev. M. Bevan and Miss Shuttleworth report that they have seen bees stupid enough to alight upon the the flowers in wall-paper. To point out this fact to landlords would be enough to make them stop decorating their walls with flowered wall-paper, for if bees are going to take painted flowers for real ones, the landlords will have a hard time of it keeping their tenants.

The most curious of these exceptional facts brought forward in proof of a general fact which does not exist is that cited by Romanes. The naturalist Couch, whose name will be surely handed down to posterity in connection with this observation, saw (in a zoological laboratory, I suppose) a bee mistake an actinia—a polyp under water—for a submerged flower.

"The bee hurled herself toward the center of the living disk, and though she struggled to get free he was held fast until she was first drowned and then swallowed."

I can't make out what this observation proves beyond the fact that a bee seeking to get water, as bees so often do to dilute the honey of the hive for food for larvæ, came woefully to grief, and at the moment when she thought to pump up her water supply she was swallowed by the polyp. This I freely admit, but as for attributing to that bee a sufficient degree of imbecility on account of its believing in a flower under water, ask any bee-keeper or lover of bees and see what they say!

WHY ARE FLOWERS COLORED?

Brushing aside these various isolated facts, let us return to the matter of the recent experiments conducted by Mlle. Wery, who says that the colors of flowers account for 80 percent of their attractiveness for the bees. A critical study of this work, and all others like it, as well as of the results of the experiments I have lately made, would overstep the limits of this article. What has already been said suffices, I think, to raise serious doubts of the theory which tells us, in the words of Sir John Lubbock, "It is to the bees that we owe the colors of our flowers and the fragrance of our fields."

Then why are flowers colored? Why not ask one's self with similar logic the source of that mysterious adaptation to which we owe the colors of rocks, precious stones and the sunset? Of course this question is neither a reply nor an objection. The advocates of Sprengel's theory have recently sought to reply in advance by enquiring: Why are mushrooms frequently garbed in rich colors? According to several authors convinced of the reciprocal adaptation of flowers and insects, edible mushrooms are colored so as to resemble the poisonous varieties and escape getting picked. "Cæsar's dainties," as M. Vuillemin says, "wear the colors of Locusta's poisons." But, then, you may just as well say that the poisonous mushrooms seek to resemble the edible ones in order to get picked.—Translated by the Boston Transcript.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued recently. The complete new 344-page book, bound in cloth, is sent postpaid for $1.00; the Appendix alone for 10 cents. Or, the book and the American Bee Journal a year—both for $1.80; the Appendix and the American Bee Journal a year in advance, $1.00. Send all orders to the American Bee Journal office.

Convention Proceedings

NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 562.]

The Secretary then read a paper by James A. Green, of Colorado, on

PRODUCING BOTH COMB AND EXTRACTED HONEY ON THE SAME COLONY

Whether comb or extracted honey can be produced most profitably is a question that is often asked, and one that each man must settle for himself according to the conditions under which he must work. Having settled this, he is too apt to assume that he should confine himself entirely to the production of one or the other. We all know something of the advantages of specialty, and I would be one of the last to decry them. Yet I think that in many cases, at least, the bee-keeper is making a mistake in so deciding. The extracted-honey man is all right. He has no need to produce any comb honey, and in most cases, it will not pay him to do so.

With the comb-honey producer it is different. All practical comb-honey producers know that it is a difficult matter to get all colonies in such condition that they will enter the supers promptly at the beginning of the honey-flow. A colony that is in just the right condition will go into the sections with a rush and keep things moving right from the start. Another, apparently as strong in numbers, will hesitate about going into the super, and do nothing for some days except to crowd the brood-combs as full as possible of honey. This perhaps results in swarming, which in many localities and with some systems of management, effectually spoils the chances of any comb honey from that colony. In any case, the colony that started promptly in the super is pretty sure to have a great deal more honey to its credit than the one that is slow about starting, even when they are apparently equal in all other respects. It is exceedingly important that the bees form the habit as early as possible of storing their honey in the super.

Bee-keepers generally are in the habit of using "bait-combs" in the supers to secure this early start. But even a full super of drawn combs in sections is not as good for this purpose as a nice set of extracting combs.

For a number of years I have combined the production of extracted honey with that of comb. My extracting supers are only 6 inches deep with the frames at fixed distances, firmly held in place by a thumb-screw through the side of the hive, after the style of the Heddon hive. This makes them easily handled as a whole, and none of the frames are ever handled separately until they come to the extracting room.

One of these supers is placed on each colony at the beginning of the honey-flow. The bees enter this readily and if there is any surplus to be gathered, it goes into the super. After the bees are well at work in it, a super of sections is placed under it, after the usual tiering plan, or sometimes the extracting super is removed altogether and replaced by the super of sections. The combs thus removed are placed over the poorer working colonies. There will always be some colonies that will not do good work in the sections, because they are not strong enough in numbers, because they are not good comb-builders, or because they do not cap their honey with the nice white finish so necessary for a fancy article. On these colonies the extracting combs may be tiered up to any desired height and left to be finished, or until you are ready to extract the honey. This gives you the ability to use profitably those colonies that are not good for comb honey. In most apiaries there are bees that are not fit for producing comb honey; simply because they fill the cells so full that their combs have a water-soaked appearance that detracts largely from its market value. These should be culled out, if comb honey is what you are trying to produce, and their queens superseded with better stock as soon as possible. In the meantime, they are just as good for extracted honey as any.

It takes a strong force of workers to work comb honey profitably. A colony that will do very fair work at storing honey in combs already built, may do little or nothing at building comb in a super. That foundation principle of bee-keeping, "Keep your colonies strong," applies with much greater force to colonies producing comb honey than to those run for extracting.

For this reason, I keep extracting combs on all colonies that are not yet strong enough for the profitable production of comb. When they have reached the point where they can build comb profitably, the extracting combs may be exchanged for sections. When a colony swarms or is divided, its comb supers go with the swarm, while a set of extracting combs is put on the old colony until it is in good working condition again. Any colony that at any time during the honey-flow is found to be doing poor work in the sections, has those sections promptly removed and replaced with extracting combs.

One of the greatest advantages of this combination system is seen at the end of the season. As the honey-flow draws to a close, instead of giving new sections that may never be completed, give extracted combs to the colonies that are doing the poorest work in the sections and give their sections to other colonies to complete. In this way you not only secure a larger amount of finished honey, but you avoid the expensive nuisance of having a lot of unfinished sections on your hands at the close of the season.

By working in this way I have sometimes had nearly every section in an apiary of over 100 colonies, run mostly for comb honey, finished up into marketable condition at the close of the season. Another important point to be considered is that in many localities, the last honey gathered is not fit to be put into sections, but can be much more profitably handled in the extracted form.

JAMES A. GREEN

It will be seen that by this system there is considerable changing about of unfinished supers. Usually the supers are first freed of bees by the use of bee-escapes, but during the honey-flow I simply get out the greater part of the bees by smoking, and then shaking or "jouncing." The few bees that are left do no harm and are just as useful in one hive as another.

Of course a queen-excluding honey-board is a practical necessity with this system, but its advantages are so many and so great that I would not think of doing without it.

Several years ago I was much taken up with the idea that has been made public during the past season of using one or more extracting combs in each comb super, but I soon gave it up, as it seemed to me too fussy and complicated, and not nearly as well suited to practical work in a large apiary as separate supers, used according to the needs of the particular colony.

The system I have outlined has been in practical use in my apiaries for nearly twenty years. There are some small advantages that I have not mentioned, but briefly, the advantages of the system are that it secures more honey, a higher grade of comb honey, saves a great deal of waste, and does it with a control of the bees and an economy of labor that is not to be secured by any other method that I am familiar with. JAMES A. GREEN.

Mr. Lyons—I think Mr. Green hit the nail on the head as far as the arrangement of his supers is concerned. I would like to hear some of the members tell their ideas with regard to the excluders.

Mr. Whitney—The method adopted by the gentleman who wrote the paper is identical with that which I use myself, excepting he used a half-frame for the extracting super instead of a whole Langstroth. To build up in the spring for the purpose of producing comb honey, I use the same method he does, and always have, and successfully.

Mr. Wilcox—Did you say you had made a success of both comb and extracted honey at the same time?

Mr. Whitney—As I understand the paper, he used some of those frames for extracted honey after taking off comb honey, by putting on some of the section frames. I do not produce comb honey and extracted honey on the same colony at the same time.

Mr. Stewart—I produce both extracted and comb honey on the same colony, at the same time, and very successfully, and I believe it is a good idea to do it. We all know that we can get the bees into extracting supers a great deal easier than into sections. We also know that at the close of the honey season it is the hardest work to get our comb-honey capped, and I use shallow extracting frames or extracting supers and comb-honey supers; the outsides of them are identical. My extracting frames are only 4¼ inches, and they are closed in. The way I do it is, I put a case of sections on those that I think are less apt to go promptly in the sections, and after they get nicely started to work I put a comb-honey super underneath them, and they work in both of them, finishing up the extracting super and going on with the comb-honey work.

What I am most interested in is something that I have not practiced at all, and it is in line with the paper that was read, and I will give you an explanation of an idea that I have: I will set up 100 colonies in the spring if I do not find some obstacle to it. I have the bee-space in the bottom instead of the top; and to produce comb and extracted honey in the same frame, my extracting frame is identical with 4 of the honey-sections. I will put one frame of comb on each side of each super, and I will fill in the inside of it with sections; and my idea is that they will start up more readily in this drawn comb; not only that, but when the weather is cold, or for any reason, they do better work in the inside than they do in the outside. My experience is, in grading honey that 80 percent or more of the culls and unfinished honey that does not come up to the grade is on the outside. If I can have the outsides for extracted honey, I have my cull honey all in the shape that I can extract it. The way I calculate to use the T's in my supers is this: I will make some T's that are shorter than these here, and my frames are made of ⅜-inch stuff all round. The ends are ⅜ of an inch wider than the tops or bottoms. They are reversible, and instead of hanging at the top they rest upon a support at the end of the casing. Then the extracting frames fit in there very nicely. But the rub is to get the T-supers to fit your cases. The way I will do that is, I will make some T's, and then take a little piece of tin and have that soldered on so that it will project out ¼ of an inch further than at the top, at the apex of the T. That ¼ of an inch will just hook over the top of the bottom part, and the bottom of the T will be flush with the bottom of the extracting frame.

There is another obstacle to overcome in using separators. I use plain wooden separators, and in order to have everything just as it should be you must have a fence or cleats on the sides of your outside separators to hold them up to the sections; and if there are cleats placed on the outside you have a separator between your extracting frames and outside frames, and everything held up; and everything, as far as the comb-honey is concerned, is identical with what it should be in the other case. The advantage is in starting bees earlier than you can in any other way; and not only that you do away with 75 percent of the culls. That I think is especially true in the after part of the season. In the early part, and in the midst of the honey-flow, I could not see any advantage in it at all, more than possibly it would give them a chance to start some more honey.

Mr. Wilcox—Do you continue using those outside frames through the season?

Mr. Stewart—I don't know. I would use them to start with and finish the season. Whether I would use them in the center of the honey-flow I am rather doubtful; I don't know.

Mr. Ferris—I can see a great future for the comb-honey producer in that line of thought. I believe there is something we would all do well to think upon, and put in practice. I believe we will find our culls will be lessened, and our first-class finished article be more, and still have our culls in an extracted form so that we can dispose of them.

Dr. Miller—There still remains the fact that some of us do not get any more unfinished sections than we want to start in with the next year.

Mr. Stewart—This applies to those that do get more than they want.

Mr. Ferris—To my mind we don't want any unfinished sections left over at all. I wonder how many of us have ever found as fine, first-class honey in the unfinished sections left over from the other year as those nice, new sections we put in this year? I never have; and this is to get rid of all the unfinished sections entirely, and yet have the extracting combs we can use in the commencement of the season, and still do the same work as we would otherwise with unfinished sections.

Mr. Whitney—It seems to me that if the extracting frames are put into a double-walled hive and then transferred to some other locality and the section-cases put in, the outside sections will be filled just as quickly by the bees in the center. That is the way I have produced comb honey, and without any danger of having a lot of culls on the outside. The bees gather right around the closed section, and cluster inside of the outside shell so as to cover those cases completely, and the outside sections are just as warm as the inside; and they fill them out just as quickly, and often commence capping first.

Mr. Holtermann—The objection which I have seen to the production of comb and extracted honey in the same hive is this: It requires a good deal of concentrated energy to produce good comb honey; and as far as skill and time are concerned it requires more careful and skillful application to produce comb honey than it does good extracted honey; and where you have a percentage of your extracting combs in that super you are really producing extracted honey at an increased expense compared with comb honey; and the more you produce the greater is the cost of producing that extracted honey. The question has been touched upon as to the unfinished sections on the outer sides of the hives. It has also been mentioned that it is not necessary to have these unfinished sections. That I am thoroughly satisfied is correct. I learned some years ago by putting in wedges between the bottom-board and the brood-chamber, the brood-chamber was practically raised an increase of ⅞ of an inch from the bottom-board, and by that means the bees were compelled to go up at the side. By having a double bee-space at the sides, by careful experiment, I have found that the outside sections are in many cases even better filled than the center.

Some objected to the suggestion Dr. Miller threw out about cull sections, and an exception was taken by Mr. Ferris, which is perfectly right and legitimate. I have never seen a bait-section as well finished as a section built upon comb foundation. But on the other hand, I want to plead this, that for these bait-sections you can get a better price than you can get for honey after it has been extracted from those extracting frames. That is the reason I do not consider the system without its faults.

Mr. Wheeler—There is a point that has not been touched on, and that is the fact that when the bees have room to store extracted honey they stop the production of wax. To prove this, it is an easy matter to put on an extracting super when you take off the section-comb honey. Then after a few days put on a super of sections, and you almost invariably stop that colony of bees from working for comb honey. If you put into that hive some empty combs on the outside it has the same effect for the time being. The bees put honey into these empty cells and they stop the production of wax. I think it is a detriment rather than an advantage. I prefer to have every section filled, and then the bees are secreting wax.

Mr. Stewart—My experience is in working the brood in shallow supers, by getting the bees nicely started in the tops, and then putting on a case for comb honey and tiering up, it does not check them, and they will work in the sections below as if they had a case of sections above them. I don't think there is any difference. A person wants to use judgment as to when they shall put under that case of sections.

Mr. McEvoy—Now I think we can work this all right. We are going to work for both comb and extracted honey. This gentleman is going to put a frame for extracting and comb on the outside. That is all right. In the first place, fill those in between with foundation, and after they have extracted the first round the bees will brush up those dripping with honey, and they will pull those combs out between the sections very readily till I get them started. They are going to crowd the queen, and it is going to lead to a little early swarming. Now, I will head off the swarms and then take out the extracting frames and shove these others up. I will hang a separator back of the frame and crowd them up, and now they have gone to work in that, and I will secure a quantity of honey, and I will take more dollars out of it than on the other section. Try it, and you will find I am pretty near right on that. I have worked at that since 1882.

Mr. Wheeler—I would like to ask Mr. McEvoy—why, instead of putting in full sheets of foundation and making them build it out for extracted honey, he does not put in sections just as well?

Mr. McEvoy—If I said that, I made a mistake. This is nice white comb. I raise it up and I put under a super or half-story comb to keep them working there. The space which is between the bottom and the top is just the same as was talked of, only it is a narrow frame and they crowd up. Give it a trial. If you find the season coming to a close, you can take 2 or 3 and put them in the center in extracting, and put the extracting combs on each side. They will come out without any being unfinished.

Dr. Miller—Mr. McEvoy spoke of having nice white comb there, and that point must be emphasized. If some of you think you can take old black combs and put them in there you will find the black comb will be carried over to your sections.

Mr. McEvoy—You are right. It will spoil them.

Mr. Pettit—There is a point in the subject matter of this paper, which I think I heard emphasized, and that is this shallow extracting super. It is about the right quantity of space you want to put on in the spring for fruit-bloom. It takes up the dark fruit-bloom honey, and what dark fall honey there is to go up, and that goes up into these combs, and then the sections are put on afterwards, and they get the white honey. And there is another point, when they get to working in these combs you don't want to take them away just when you put on the foundation, because I find without using the extracting combs we don't want to have them start storing honey in the extracting combs, and then take these off and put on foundation, because that immediately makes them sulk, and swarm before they start on the sections.

(Continued next week.)

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Successful and Easy Way to Work Up a Home Honey Market

In response to the call for experience in working up a home market, I will give mine.

I found there was a great deal of prejudice in my home town against extracted honey, the people thinking it was the old-fashioned "strained" honey. About every other lady I tried to sell honey to said, "Oh! I don't like strained honey. I want comb honey." I would then explain the difference between "strained" honey and extracted, and wind up by selling her half a gallon, or a gallon, of extracted honey, with the distinct understanding that if she did not like it, or it was not entirely satisfactory, she was to return what was left, after giving it a fair trial, and get all of her money back. I never had any returned.

But that was too slow—explaining to every other customer, so I wrote an article for the local paper, explaining the difference, and announced that at a certain time and place on the principal street I would give a free exhibition, showing the latest method of extracting, and the difference between extracted and "strained" honey.

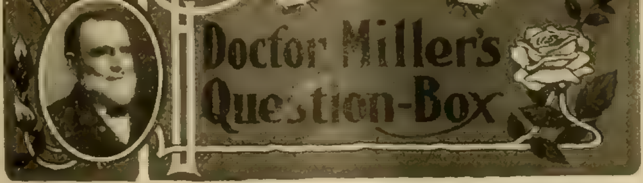
When the time arrived I was there with the extractor and a lot of supers of honey, and a frame of brood for illustrating the old method of securing strained honey. I showed them that extracted honey was exactly the same thing as comb honey with the comb left out. I passed an empty comb around for them to taste, thus showing that the comb had no taste, and all the taste of comb honey was in the liquid honey contained in the comb.

"Seeing is believing," and I converted this whole town in 30 minutes. They bought all I extracted on the spot, and gave me orders for more. And never since that day have I had anybody tell me he liked comb honey and did not like extracted.

I still sell some comb honey to a few people who do not mind a little extra expense, but the great majority call for extracted honey.

Try it, fellow bee-keepers. Don't take it for granted that everybody else knows all you know about bees and honey. H. D. Murry.

Texas.



Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Queen-Experience—Getting Drones from a Distance

Last year I purchased 3 Italian queens to try to help a widow and her family get a start. They tried to winter them in the barn, but the result was that the stores were consumed or robbed out, and all the bees died but 1 colony. There were not enough bees to keep the brood warm. The queen was laying 2, and sometimes 3, eggs in one cell. When I noticed this I advised placing them in the house, with an exit of about 1 inch through the bottom of the window, bending a piece of sheet-iron to allow it to answer as a chute, and closing the balance of the window with a strip of board to prevent the wind from blowing in, and screening the remainder of the entrance to the hive, thereby allowing the warm air of the room to pass freely through the hive, which resulted in a rapid increase of larvæ, so that feeding had to be resorted to as the stores were found to be very short.

House-cleaning time came, and, of course, the bees must go outdoors. In that move the bees became divided, and would not unite without fighting. They called my attention to the condition, and as it was some hours after the hive had been removed, and many of the workers were flying all around and through the house, I took 3 of the heaviest brood-frames, brushed the bees off and placed them in a new hive with other drawn cromb, and placed this hive in the window, and 20 minutes later everything was quiet, and the bees were working nicely in both hives. A few days later I found only 1 queen-cell. I gave another frame of brood, and 10 days later found 4 more fine queen-cells ready to cap, and one queen possibly 2 hours old. Then I removed the hive, jostling it much as I removed it from the window, giving it as much jolting as I thought the comb could stand and not tear. Then I took the frames out that had queen-cells, with adhering bees, and placed them in another hive, leaving the young queen in possession of hive No. 2. Then, about the time the queen would be likely to fly it began to rain, and turned cold. Five days later I found the young queen gone, so I decided she had been lost on her wedding-trip, because of rain and cold, or some other cause unknown to us. A careful examination revealed the fact, also, that there was not even as much as one drone in any of the hives. Now, with nice queen-cells ready to hatch, and no drones, what am I to do for these people? There are black bees in the neighborhood, and if we have no drones for our young queens to mate with, will they not find a black, or possibly, at best, a hybrid drone, producing a cross of inferior stock?

I have placed a frame of drone-comb in the center of the brood-nest early this spring. The first time I did that the bees took out the eggs the queen laid in it, and filled the frame with honey. I changed it before the honey was capped, and placed another frame of drone-comb in its place; but even if they allow it to be filled with eggs, the drones will be too young to be of any practical good until very late in the season, if I am not wrong in my opinion as to the age a drone must be to fly well. Or could I get a few drones from a distance? What are they worth? and would they do us any good?

Can a queen be kept confined and allowed to fly only in a wire-cage (say 2 feet square), and be expected to mate with a drone therein, or must she have the freedom of the open field for her wedding-trip? INDIANA.

ANSWER.—It would hardly do any good to try to get drones from elsewhere. The journey would be hard on them, and even if they should be in best condition they would not be likely to stand much show against the drones of the neighborhood. You may count quite certainly that your virgins will meet drones from some of the colonies within a range of 2 miles or less, and having pure drones of your own would not lessen greatly the probability unless in great numbers. By this time there will be no scarcity of drones in the surrounding neighborhood. Mating queens in confinement is not a success yet.

Preventing Increase—Putting Weak Colonies Over the Strong

1. Will giving an empty story below a queen-excluder do for section honey, to prevent increase?

2. E. W. Alexander says, in the Bee-Keepers' Review, that "those colonies that are weak in bees yet have a good queen I mark, and as soon as they have larvæ, which is usually in about 5 days after setting out, each is taken to a good, strong colony and given a frame from the strong colony so as to keep the bees from leaving their queen and all going below. I close all the entrances except that of the strong colony. The bees will divide themselves about equally between the two queens, and in about 4 or 5 weeks I can separate them, and in 9 times out of 10 I have 2 good, strong colonies. For 20 years I have treated all my weak colonies in this way in early spring. Sometimes I have had 100 weak colonies on top of strong ones. Don't keep them together too long, as the young bees, when over 2 weeks old, are liable to sting one of the queens." Now, is Mr. Alexander not mistaken as to the young bees stinging the queen? Don't the queens fight each other? This can be prevented by putting 2 queen-excluders on top, or between the weak and the strong colonies so the queens can not reach each other. I will try this next year. This is what troubles me the worst, to keep the queen living in this weak colony and breed up. A queen I got last year is a dandy. She had 4 brood early this spring, and the hive is now full of sealed brood and bees. I put an empty story on top. I am going to try Mr. Doolittle's plan on one hive this year, and take the brood and make nuclei of it, and save the young queens.

3. Is this all right, or do you know of a better plan to get the most honey and save the queens, too? MINNESOTA.

ANSWERS.—1. You probably refer to the G. W. Demaree plan, which is to put an empty story on the bottom-board, and on that the old hive with its contents, an excluder being put between the 2 stories. In 3 weeks' time all the brood in the upper story will have emerged, and it will be an extracting super. Of course, that would hardly do for section honey. But in "Forty Years Among the Bees" will be found a plan somewhat after the same order that is all right for section honey. It is called the foundation plan of treatment, and is given as follows:

"We find and cage the queen, destroy all queen-cells, remove the hive from its stand, and put in its place a hive containing 3 or 4 frames of foundation. The foundation is on one side of the hive, with a dummy next to it. The rest of the hive is left vacant. Upon this hive is put a queen-excluder, and over the excluder the old hive with its brood and bees, and over this the supers as before. Then the queen is run in at the entrance of the lower hive, and the colony is left for a week or 10 days. At the end of the week, or as soon after that time as we can conveniently reach it, we take away the lower story with its excluder, and put back the queen in the old hive, which is left on the stand."

2. Your idea seems to be that when there is only one excluder, one of the queens stings the other through the excluder. I wouldn't like to be too sure about it, but I very much doubt that one queen can sting another through an excluder.

3. You will likely find it works all right.

Rearing Queens in a Poor Honey-Season

I am trying to rear queens, but we have had a poor season so far. The bees take the eggs out of the cups as fast as I can put them in. I can't think what is the matter, as the colony is queenless. I have been following the directions given in Pratt's queen-book. WISCONSIN.

ANSWER.—If the season is as poor with you as it is here, I don't wonder at your experience. Feed your colony a little daily, so as to make them think a harvest is on, and they will be more ready to start queen-cells.

Is "Honey-Dew" Pure Honey?

As the bees are gathering and storing away a great amount of honey-dew this spring, and as there seems to be some difference in opinion in regard to what is meant by the term "Pure Honey," do we mean to say that only the sweet of flowers gathered by the bees is pure? or do we accept the theory that all sweets gathered from plants are pure? If we stamp all honey as not pure which is not gathered from flowers, we necessarily then have classed honey-dew as impure, whether it is produced from the aphides and is a production of plant-life, or falls as a manna from heaven—we believe it just as pure as white clover, alfalfa, or any of the best grades of honey that are produced by bees. It is true that it is an inferior grade, but quality is not to be reckoned with purity. Is not white clover superior to buckwheat honey? and are there not flowers at times which produce honey that is not conducive to good health? Why, then, class honey-dew as impure because it is not gathered from flowers? What is meant by "impure honey?" Is it honey that has been adulterated and doctored by men, therefore a mixture and impure? J. W. P.

ANSWER.—Your views are quite correct, unless it be with regard to honey-dew falling like manna from heaven. It is now generally conceded that it never falls anywhere except where there is something above in the form of a tree for it to fall from.

Dividing Colonies for Increase

1. When dividing bees at this time of the year, would it do to set the colony, or half containing the old queen, on a new stand and stop up the entrance with green leaves, or place screen-wire over the entrance to confine the bees for a few days so the working force will not return to the old stand?

2. Would the bees be likely to smother if confined in this way?

3. The real trouble with me in dividing for increase is the working force leaving the old queen which I place on a new stand and return to the old stand, so that we get no work from the old colony with the queen for a week or two. Can you give me a better plan for dividing? MISSOURI.

ANSWER.—If I understand you correctly, you want to take half the colony, with the queen, and put it on a new stand, and your problem is to make the older bees, or the field-bees, willing to stay there. Confining them for 2 or 3 days would accomplish that end, but there is danger that a good many bees would worry themselves to death. Such a plan is all right for a nucleus of one or two frames, but half a colony would be too much crowded and heated. But you can make that all right by putting them in a cool and dark cellar during the time of their imprisonment.

I could tell better as to the advisability of your plan if I knew just what you intended to do with the half left on the old stand. In any case, you will likely get more honey, and perhaps more satisfaction in every way, to proceed thus: Set the old hive with all its contents on a new stand, taking from it one frame with queen and adhering bees, which you will put in a new hive on the old stand. A week later shake a lot of the bees, perhaps half of them, from the old hive into the new. Of course a queen-cell or a queen is to be given to the queenless bees on the new stand within 2 or 3 days of moving them. The object of waiting a week before shaking the bees into the new hive is to allow plenty of bees in the old hive till all the young brood and eggs are out of danger.

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Reports and Experiences

If Wet Enough, Good Prospects.

My wife's folks packed 7 colonies of bees last fall with leaves, putting the bees in outside cases, and 4 of the 7 were so light of honey, and the winter being so open, only 5 were alive in February. They wanted to go out of the bee-business, as they were not able to care for the bees longer, so they made me a present of the 7 colonies, and all the extra supplies at Christmas time. Only 3 colonies came through alive till March, and I shipped them 75 miles here, and all 3 arrived here all right, but one was so weak that robber-bees robbed them, while I was away from home a few days; and that left me only 2 colonies.

One of my parishioners at Argyle gave me a swarm of the common black bees, and I transferred them from the old cracker-box they were in into a Langstroth hive, and they are doing well. I have only the 3 colonies of my own at present, but have 8 empty 8-frame Langstroth hives, and am taking care of Rev. Hoober's apiary of 42 colonies, and get half the new swarms. We have not had a new swarm yet, but the bees are working in the supers quite well, and when we do get swarms they will be large ones. I will keep my 3 colonies from swarming. We are working for comb honey altogether.

The loss of bees last winter was about 25 percent in this locality. The raspberry is in full bloom now, white clover is just commencing to yield some honey, and the bees have been doing good work the last few days. If it continues wet enough, the prospect is good for a fair flow of honey from white clover. J. W. Stine.

Mt. Pleasant, Iowa, May 30.

Non-Swarming Brown or German Bees—Transferring Larvae with a Medicine Dropper.

I would like to reply once more to Mr. Henry Alley, and say that I have some pure Brown or German bees that I wouldn't trade for any other race of bees on earth; but they have one very serious fault—they won't swarm enough to suit me; nor are they good cell-builders; but as I am not a queen-breeder and haven't any queens to sell, I am not seeking any free advertising.

I am one of those fellows who want my bees to swarm once, and that is about the last of May, or forepart of June, as I much prefer natural queens to any other; but by the way I have been handling my bees for the last 6 or 8 years I have completely broken them of swarming, and I didn't want to; and the funny part of it is I don't know just what part of the performance has done it, or I would let those into the secret who want things that way.

Now I am going to give the old queen-breeders a kink that they probably haven't thought of, in the way of handling young larvæ and royal jelly. Instead of using a feather or spoon and scraping the larva around in the cell, and killing or crippling many of them, just take a medicine-dropper with the largest hole in it you can find, or break it off back where the hole is large enough to admit a very small larva. Draw up a little royal jelly into it first, then the larva, then more royal jelly and then insert it in a cell-cup and eject the whole, and you have the cell-cup all done.

Linn Co., Oreg. Geo. B. Whitcomb.

Getting Bees Into Supers and No Swarming.

I notice on page 401 that Mr. Davenport's method of controlling swarming of bees will not be given to the public. I believe the public already know as much as is necessary on the subject.

I have 50 colonies of bees, and in the last 3 years I have not had any of them swarm without my will. I have learned my method partly through the valuable American Bee Journal, and partly through my own observations and experiments.

About the time the bees are preparing to swarm I place the super on top of the hive, and then they must have some inducement to go up, the same as a fish is induced to bite the hook. So I put in a section of honey, uncapped, which will cause them to go up after it, and in so doing they will commence to move up and work, and lay aside all notions of swarming.

If I notice that this section of honey fails to do the work, then I put in one more, and in 9 times out of 10 it is successful. But should I fail, and they swarm after the above method has been tried, then I put the swarm in a super and place the super on top of the mother colony, and they will stay.

This year I intend to allow some of my bees to swarm, as there are not so many bees in this county as last year, on account of last summer's unfavorable honey-season, which was the cause of many losing their bees last winter for want of food. I lost but 1 colony, as I fed them a little this spring.

My bees are doing very nicely now. I think they will have no trouble to get all the honey they want.

I think the prospects in this locality are very favorable this year.

I wish to thank the many contributors of the American Bee Journal for the many valuable points they have given in its columns. A. G. Erickson.

Monett, Mo., May 15.

Safe Introduction of Queens.

I will give a plan which, if followed, never fails with me in successfully introducing queens:

First, when the queen arrives make the colony queenless. As soon as the old queen is found, either destroy her or (if you want to use her further) take 2 or 3 frames of brood with adhering bees, put them in a new hive, and on a new stand; or better still, put 3 frames of brood on a new stand, after seeing that the old queen is not there. To make sure of this, you would better hunt her out first, and set the frame on which you find her to one side; then take out the frames as directed, and put the queen back into the hive.

Find a comb on which young bees are hatching, and when you see bees just emerging, gently catch them by both wings with the thumb and first finger, and put one by one into a new cage containing only the new queen, until you have put 8 or 10 into it. Then put the cage right in the new hive on a new stand by simply moving 2 of the 3 frames apart so that it will just fit in above the combs. Press the frames firmly together, close the hive and let it alone for 10 or 12 hours, then pull the cork out of the cage, or if paper is tacked over the end with candy in it, pull it off so the bees can help those in the cage to release her. This is an important point, as the sooner they release her at this time the sooner egg-laying will commence.

Let the hive alone for 5 or 6 days, and you will never lose a queen, as the bees that have just hatched move about the queen in the cage, and impart the scent of the other bees of the hive to the queen, and, of course, they will not harm her. Also, you can, after putting the young bees into the new cage, and if you have removed the old queen as directed and cut out all queen-cells, put the cage in the hive of the old colony. In fact, the best results are obtained by putting the cage in right away, as soon as the old queen is removed. Also, if you have a feeder, it is best to fill it and put it in the hive, so that no robbing is induced; close the hive-entrance so that only a few bees can pass out at a time.

But to go back to the old hive: After removing the 3 frames, put empty ones in their places right away, so as not to retard the work. The best thing to do is to put 1 frame between 2 combs, as it will induce them to build them out at once. Also, by putting empty frames between drawn combs the queen will not lay in one side or the other, as she would in case you put the 3 empty frames in the center of the brood-chamber.

I am writing this in the hope that it will still be in time to save many a good queen which would otherwise be killed. After losing many good queens I adopted this plan, and have not lost one since. Later on I will give a plan by which 20 colonies can be formed from 2 and still produce a surplus of honey. Julius Happel.

Evansville, Ind., May 28.

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All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

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Select Untested	1.00	5 00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10 00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
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Select Untested Queens......	$2.00	$11.00	$20.00
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Select Tested Queens.........	1.50	7.00	12.50

Full prices on application. English correspondence.

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TOLEDO

Will save you money. We will buy your Honey and Beeswax, and pay highest market price. It will pay you to correspond with us when your crop is ready to market. No shipment too large for us. Carloads a specialty.

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We have a yard at Toledo with 100 colonies and over, which we use for queen-rearing only, besides several out-yards which we run for honey; also for extra bees. Brood and queens are mailed the same day order is received.

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To any one asking for it. No matter whether you keep one colony or 500. We also handle a large line of Poultry Supplies, and sell Eggs for hatching. Our 1906 mating list is sent with every catalog. Don't buy until you have seen it.

GRIGGS BROTHERS, 521 Monroe St., Toledo, Ohio

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We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

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We thank our friends for the liberal patronage extended to us, and beg to announce that we have largely increased the capacity of our queen-rearing yards, and will be prepared to fill orders promptly after July 1st.

Our prize offer on honey production is extended to Oct. 1st for those who wish to try our "Pure Gold Queens."

We call special attention to the superior qualities of our Red Clover Italians and Yellow Caucasians which are worthy the attention of progressive bee-keepers.

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Italians and Carniolans, Select, Untested, 75 cents; six, $4.00.
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Banat Queens for those who wish them.

Special prices for larger orders and breeding stock will be given on application. Write for Catalog.

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ITALIAN AND RED CLOVER QUEENS

I guarantee safe arrival and perfect satisfaction. Untested, 60c: select untested, 75c, or $8 per dozen. Tested, $1 each, or $10 per doz

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Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans — Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906,

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Choice home-bred and imported stock. All Queens reared in full colonies.

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Safe arrival guaranteed.

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None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

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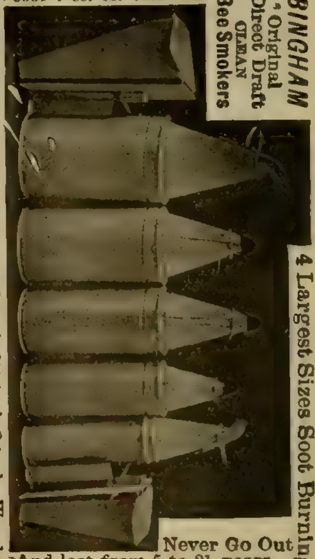

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Never Go Out
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Sent on receipt of price per mail.
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OTISVILLE, PA., Jan. 18, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

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Honey and ✤Beeswax✤

CHICAGO, June 22.—The demand for honey, both comb and extracted, is slow. Fancy comb brings 15c per pound; No. 1, 14c; off grades, 10@12c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c. R. A. BURNETT & Co.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, May 12—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, June 20.—There is no new honey arriving in this market as yet, and so few lots of old honey that we cannot establish any price. Some little lots of Southern extracted honey have arrived in barrels. We quote: New Southern extracted, light amber, 6½c; amber, 6c. Beeswax selling freely at 29c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 8.—There is still some demand for comb honey, mostly for fancy grades. which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
HILDRETH & SEGELKEN.

Headquarters for Bee-Supplies

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Complete Stock for 1906 now on hand.

FREIGHT-RATES FROM **CINCINNATI** are the LOWEST, ESPECIALLY for the SOUTH as 'most all freight now goes through Cincinnati.

Prompt Service is what I practice.
Satisfaction Guaranteed.

You will SAVE MONEY BUYING FROM ME.

Catalog mailed free.
Send for same.

Let me book your Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.
For prices, refer to my catalog, page 29.

At Root's Factory Prices

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, May 31.—The honey market here is bare, no new honey in market yet. The market is about $3.25 per case on fancy white. Extracted, 5½@6c. On account of the warm weather and heavy receipts of fruits, the inquiry for honey is dropping off, but we believe with the advent of new honey there will be a good demand for same. C. C. CLEMONS & Co.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c. Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

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Yellow Sweet Clover Seed
1 lb., postpaid, 30c; 5 lbs., by express, at purchaser's expense, $1 00; 100-lb. lots, 15c per lb. A. L. AMOS,
26A4t Rt. 1. COMSTOCK, NEBR.

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BEESWAX—Will pay Spot Cash and full market value all the year. Write us when you have any to dispose of.
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Second Hand Empty 60-pound **HONEY-CANS**—two in a crate. In lots of 10, 40c per crate; 25 or more crates, at 35c per crate.
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BELL BRANCH, WAYNE CO., MICH

STANDARD BRED QUEENS.
BUCKEYE STRAIN RED CLOVER.
GOLDEN ITALIANS. CARNIOLANS.
By Return Mail. Safe Arrival Guaranteed.

PRICES	ONE	SIX	TWELVE
Untested	$0.75	$4.00	$7.50
Select Untested	[illegible]	5.00	9.00
Tested	1.50	8.00	15.00
Select Tested	[illegible]	10.00	18.00
Select Breeders, each		$3.00	
Two-frame Nucleus and nice Queen		3.00	

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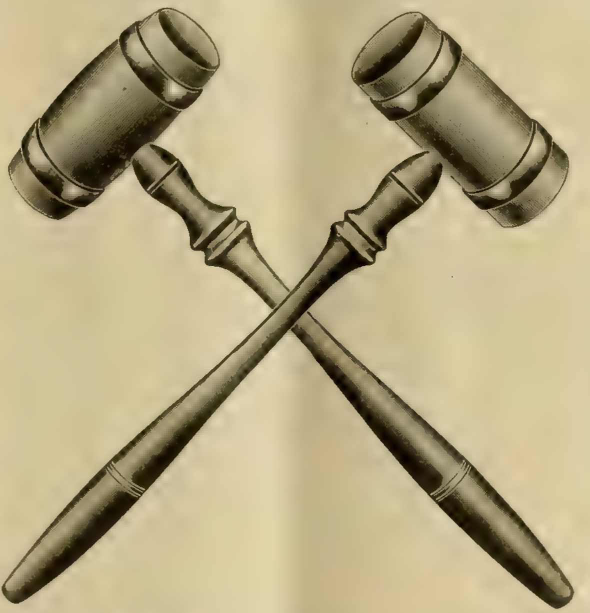

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(See page 594)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

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Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times	.... 5 per cent	100 lines	... 5 per cent
13 "	.... 10 "	500 "	... 10 "
26 "	.... 20 "	1000 "	... 20 "
52 "	.... 30 "	2000 "	... 30 "

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the ublishers of the American Bee Journal.

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

The Summit Reached

Prices of Queens, Italian and Caucasian: Untested in June, $1 each; dozen, $9. Tested in June, $1.25 each; dozen, $12. Selected Queens of any grade, 25 cents extra.

Prices of Nuclei on application.

The Wood Bee-Hive Company
LANSING, MICH.
22Etf Please mention the Bee Journal.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL

Marshfield Hives and Sections

kept in stock; none better. **Dittmer's** Foundation and all kinds of Bee-Keepers' Supplies sold right. Thousands of Shipping-Cases, 24-pound, 13c; Fancy White Basswood, 16 cents. **Honey** and **Beeswax** wanted. Send for free list, and save 20 percent on your order.

W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.

Please mention Bee Journal when writing Advertisers.

New Edition of Dr. Miller's

40 Years Among the Bees

(With Appendix Just Added.)

FREE as a Premium for Sending Two New Subscribers

The book contains 344 pages, bound in handsome cloth, with gold letters and bees, and illustrated with over 100 beautiful original half-tone pictures, taken by Dr. Miller himself.

The first few pages tell how Dr. Miller got into bee keeping. 20 years ago he wrote a small book, called "A Year Among the Bees." But "Forty Years" shows in minutest detail how he does things with bees and gets large crops of honey.

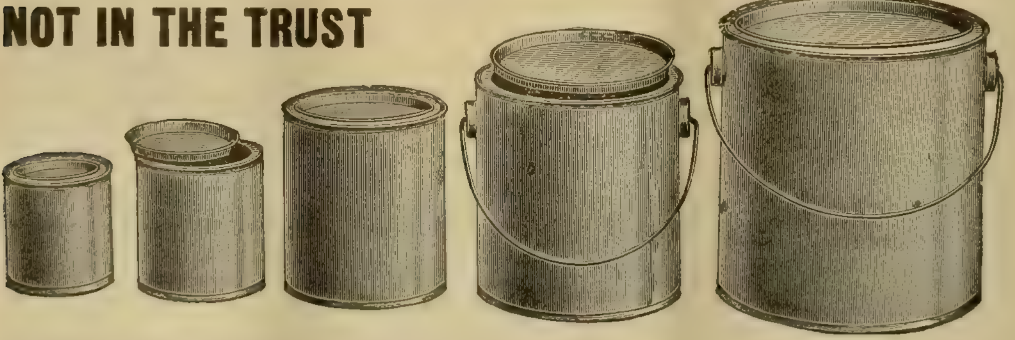
How to Get a Copy of Dr. Miller's "Forty Years Among the Bees"

It is sent postpaid for $1.00, or with the Weekly American Bee Journal for one year, both for $1.80.

Or, any present regular subscriber to the American Bee Journal whose subscription is paid in advance, can have a copy of Dr. Miller's new book *free as a premium* for sending us **Two New Subscribers** to the Bee Journal for one year with $2.00. This is a magnificent offer, and should be taken advantage of at once. Address all orders to

GEORGE W. YORK & CO.
334 DEARBORN STREET. - CHICAGO, ILL.

NOT IN THE TRUST



We will stamp your Cans "PURE EXTRACTED HONEY"—FREE

◆

Our prices for 1906 are the lowest to the National Bee-Keepers' Association. Write us.

◆

Now is the time TO BUY

FRICTION TOP CANS
FOR HONEY AND SYRUP

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1035 W. 47th St., CHICAGO, ILL.

Mention Bee Journal when writing.

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IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness. No Sagging, No Loss.
Twenty-seven Years of Experience. We Guarantee Satisfaction.

WAX WORKED INTO FOUNDATION

BEE-SUPPLIES of all kinds.

Beeswax Wanted at all times...

****

DADANT & SONS, Hamilton, Ill.

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CAPON
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Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor 25c
Poultry Marker.......25c
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Capon Book Free.

G. P. Pilling & Son, Philadelphia, Pa.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
334 Dearborn Street, CHICAGO, ILL.

Fire Sale of Bee-Supplies

Come and see the goods before buying, if you can. It will pay you, as you will

Save 25 to 50 Percent

As announced last week, a fire which caused almost a total loss occured June 20, in the building we then occupied. We are now in our new quarters—**191 & 193 Superior St.** (3 blocks north and 1 block east of our old location)—where we have the slightly damaged goods that we have sorted out, and also a stock of

New Lewis Goods at Factory Prices

Any bee-keeper living within a reasonable distance of Chicago can make money on any supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick if you want any of the goods we are selling at 25 to 50 percent reduction.

Send for Free Catalog of New Goods. Address,

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)
Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

——FOR HIS——

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Mention Bee Journal when writing.

Queens By Return Mail

Queens from our fine strain of 3-band Italians will not disappoint you; bees are gentle and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c, $6 per doz. Tested, $1 each.

J. W. K. SHAW & CO.
19Atf LOREAUVILLE, Iberia Co., LA.

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Private Lessons

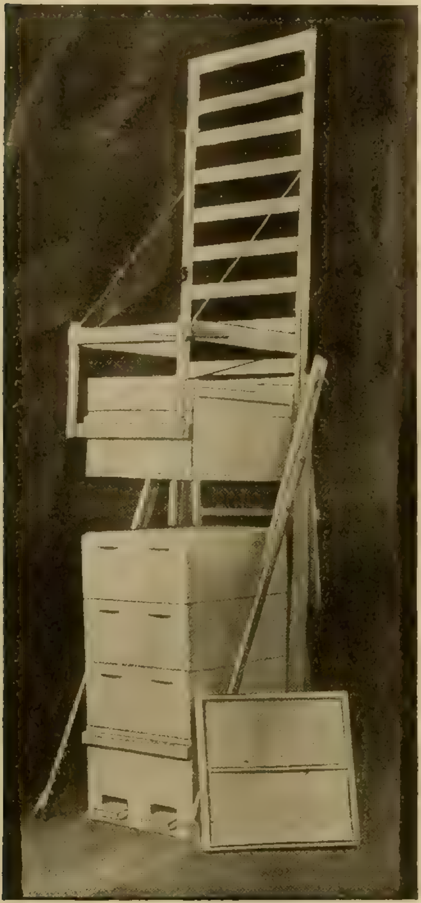
by mail, or in Oak Park,

on forethought, memory, health, accuracy, self-control, concentration, originality and the sources of resourcefulness. 6 trial lessons by mail for $5.

The Earl Pratt Library Reports
Oak Park (Chicago), Illinois

Local Correspondents Wanted.
Send 4 cents for Outfit.

Mention Bee Journal when writing.



Swarming Done Away With

The illustration shows one of the A. K. Ferris hives under process of manipulation. Every bee-keeper will be interested in reading about these hives arranged according to the Ferris' system for the Prevention of Swarming for Comb Honey Production.

The Non-Swarming articles by Mr. Ferris and Mr. G. M. Doolittle are proving exceedingly interesting. This great series is fully illustrated and will be continued throughout the remaining issues of 1906.

Among our other regular contributors are Mr. J. A. Green, Dr. C. C. Miller, E. W. Alexander, and many other bee-keepers of note.

No bee-keeper who will take time to look through one number of **Gleanings in Bee Culture** can satisfy himself that he does not need this "Journal of Profit."

We make it easy for you to give **Gleanings** a thorough trial; here's the offer:

A six month's trial trip, 25c.

If you will send in your remittance before the back numbers from April 1st, in which the introductory articles on the Non-Swarming series have appeared, are all gone, we will include these free of charge.

Gleanings in Bee-Culture
MEDINA, OHIO

SECTIONS

Sections are in great demand at this season of the year. We are running full capacity, but can hardly supply the call for No. 1 Sections of all sizes.

Place orders at once, or you are apt to be disappointed. We have a very large supply of No. 2 grade of Sections. These Sections are as good as some offer for No. 1. Not being snow-white—but having a tinge of cream grades them No. 2. Give this grade a trial this season. It will cost you 25c a thousand less.

ALEXANDER FEEDER

We are prepared to furnish the Alexander Feeder. We make them 19 inches long so they may be used with either an 8 or 10 frame hive. With a 10-frame hive they will project 3 inches beyond the hive for feeding, and the block may be laid crosswise of the feeder or be cut off as preferred. With the 8-frame hive the feeder projects 5 inches and the block lies lengthwise. We soak the feeders in oil to prevent the feed from soaking in. Price, finished, including block, 25c each; 10 for $2; 50 for $9.

GERMAN BEE-BRUSH

Some months ago Mr. R. F. Holtermann called our attention to a bee-brush which he received from Germany, made of genuine bristle or horsehair. He had used one a whole season, washing it out often, and it appeared to be as good at the end of the season as at the beginning. He considered it so far ahead of anything he had ever seen or used that he wanted no other. We concluded if it was so good for him it must be equally good for others. We are now provided with a stock which we offer at 25 cents each; by mail, 30 cents. The bristles are black, and about 2 inches long, extending 8 inches on the handle. Made of white hair it would cost 5 cents more.

THE A. I. ROOT CO.
Medina, Ohio.

—BRANCHES—

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CHAS. DADANT

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., JULY 12, 1906 | Vol. XLVI—No 28

Editorial Notes and Comments

Prevention of Swarming With Extracted Honey

In so complicated an affair as working to prevent the swarming of colonies, it is not strange that there should be differences of opinion as to the emphasis to be put upon different items. The following note is an illustration :

> Editor York :—In the instructive article of G. M. Doolittle, page 555, has he not omitted the most important item in the prevention of swarming when running for extracted honey? Is not the great amount of ventilation that may obtain with extracted-honey colonies of more importance than all the other items combined?
>
> Honey-Man.

It is the general belief—in which Mr. Doolittle shares—that it is easier to prevent swarming when running for extracted than when running for comb honey, the general explanation for which is that more abundant room may be given both in the brood-chamber and the surplus apartment. It is also probably generally believed that more ventilation may be given without interfering with storing in the case of extracted-honey colonies than in that of comb-honey colonies. But is our knowledge with regard to this very full and exact ?

If a large opening be made in the upper part of a surplus apartment, we know that less work will be done by the bees near such opening. In the case of comb honey the result is bad, plainly showing in unfinished sections at that point. In the case of extracted honey we say it merely means that the honey is stored farther away ; unused extracting combs are not as bad as are unfinished sections. But it is certain that there is no real loss of honey in the case of extracting combs if ventilation be excessive ?

Whatever may be the case, it is claimed by some that there will be little or no swarming with stories enough and large ventilation at the bottom, between each two stories, and under the cover. Who can tell us from actual trial whether this is reliable ?

Fairness to Advertisers and Subscribers

It is the earnest desire of the American Bee Journal to treat both advertisers and subscribers with all the fairness possible, as was urged on page 442, but our correspondent "Canada" seems not to see it exactly in that light. He writes :

> The first part of the advertisement referred to on page 442, certainly leads to the impression that the advertiser was a beginner in queen-rearing, and now (May 24) you ask, What is to hinder the queens being all right? I answer, to any but the veriest novice the inference would be that when that advertiser bought the black bees there were other black bees in the neighborhood, and he was liable to have some of his queens mated to black drones. I have a queen purchased late last fall, and her drones are so black as to be unsatisfactory, especially when compared with some (supposed to be) Doolittle stock. A friend has been buying Italian queens 2 years or more, and has very few true Italians yet. Like Dr. Miller, he will have to Italianize the whole neighborhood before he can cease to breed hybrids.
>
> Canada.

It is hardly worth while to discuss whether others would understand that a man was a beginner in queen-rearing because he advertised reduced prices on bees he had bought and Italianized, as the probability is that all other queen-rearers have been guilty of the same charge when first entering the business. The drift of the objection seems to be the danger that queens might be sold that were impurely mated by black drones in the neighborhood. Passing by the possibility that the black bees bought might have been from some distance, one may ask whether "Canada" demands that no one shall offer queens for sale unless he is in a locality entirely free from all but pure drones. If that be the view on which he bases his objection—and if not he will kindly tell us more specifically what his objection is—it may be as well to say at once that the probability is that the advertiser in question does not live in a locality where only pure Italian drones are to be found ; and to add also that neither does any other unless he lives on some island.

The material difference in price between tested and untested queens comes from the fact that there is no positive proof that a virgin has not met an impure drone, until her worker offspring emerges. If the queen-rearer were positively certain that none but pure drones were in reach of his virgin queens, an untested queen would be just as good as a tested one, and there would be no need to distinguish in price.

If there be no other objection to the advertisement in question than that it might lead "Canada" to think the advertiser a beginner, and that impure drones were in his neighborhood, the American Bee Journal can hardly feel that it has been wanting in consideration for the interests of its subscribers in accepting the said advertisement.

Legal Rights to Bee-Territory in Australia

The business of bee-keeping is differentiated from almost all others by the fact that no man can hold an undisputed title to a given bee-range unless he holds absolute possession of thousands of acres of land. There is a somewhat general feeling that priority of location should be respected, but all are not agreed upon it, some holding that any man has a moral as well as a legal right to plant an apiary upon any rood of land he can buy or rent, no matter if the territory is already fully occupied.

One man vigorously advocated, some years ago, the idea that there should be such legislation as would give undisputed possession of a given territory, so that a bee-keeper might feel just as secure against intrusion as the farmer who holds his ancestral acres. But the idea was not popular, and he was unsupported, it seeming to the general mind that no just legislation could give one man full possession of a piece of land for farming purposes while another man should own the nectar upon it.

Exactly that sort of legislation, however, is what our bee-keeping friends on the other side of the globe have obtained. Before giving particulars, as obtained from the Australian Bee-Bulletin, it may be well to explain that what are called "Crown lands" seem to be the same as we call government lands. A bee-farm license would seem to give entire control of the ground, not to exceed 10 acres; while a bee-range gives control of the nectar within a radius of one mile. Here are the particulars:

> Regulations for the conduct of bee-farms under the provisions of the Victorian Land Act Amendment Bill passed last session, have been approved by the Minister for Lands (Mr. Murray). These farms consist for the most part of excisions from areas held under lease from the Crown, and the regulations are, therefore, in the main, directed to defining the rights of the lessee and the bee-farmer. The license is issued for a period of 7 years, and no right of renewal is guaranteed. The bee-farmer may make improvements, but he does so at his own risk, and is not entitled to compensation. Stringent provisions are made against the careless use of fire, and the licensee is not allowed to keep a dog. The licensee is given the right of access to his holding over the original lessee's property, but he is prohibited under penalties from leaving gates open after passing through them. No individual, company, or corporation is allowed to have more than 3 bee-farms or bee-ranges. The aggregate area of the bee-farm licenses must not exceed 10 acres, whilst a bee-range consists of all the land within one mile of the apiary site. The licensee has, however, no right of entry to the 1-mile radius, which refers only to the area over which the bees could have the use of the trees.
>
> Owners of apiaries on private lands adjoining Crown lands may apply for bee-range licenses, the rent of which is fixed by the Act at a halfpenny [about 1 cent] per acre within the mile radius. Areas included in the licenses can be transferred or sublet only on the approval of the Minister on a payment of a fee of $2.42. Speaking generally, the rent for a bee-farm license will be 25 cents per acre. All applications lodged on or before March 31 will be deemed to have been simultaneously made. Forms of application will be available at the Lands Department. Applicants are requested to furnish full particulars of the site in respect to which the application is made. Where there is no opposition permits will be given for immediate occupation. Licenses are not allowed to cultivate, except with the consent in writing of the Minister.
>
> The Regulations Governing the Bee-Sections of the New Land Act as now published, although they may not be exactly what we desired, are a compromise of the demands of bee-keepers and the contentions of occupiers of Crown Lands, and are the best this Association could obtain after a protracted struggle against opposing influences.
>
> Will members please note that all applications for bee-sites made up to March 31 next will be considered as made simultaneously. After that date priority will go with date when application was received. In undisputed cases permits for immediate occupation will be issued, and applicants may, therefore, avoid much delay by agreeing first amongst themselves.
>
> I would also point out that although the charge for a Bee-Range license is ½*d.* [about 1 cent] per acre, it is not obligatory for the holder of a Bee-Farm license to take out a Bee-Range license if he cares to take the risk of getting a competitor for his pasture within 2 miles of his apiary. On the other hand, an apiarist on private land may take out a Bee-Range license, securing to him the exclusive use for a distance of a mile of the bee-pasture on adjoining Crown lands, although he, himself, does not require a Bee-Farm license. The number of sites and Bee-Range licenses any one person may hold is 3. The amount payable as a royalty for a radius of 1 mile at ½*d.* per acre is about $20 00.
>
> R. Beuhne.

Miscellaneous News-Items

The Langstroth Gavels shown on the first page of this number were engraved from the ones presented to the National and Chicago-Northwestern Bee-Keepers' Associations by Mrs. F. M. Glessner, as mentioned on page 599. This was one of the most interesting features of the National Convention. Mrs. Glessner deserves to be congratulated on the happy results of her appropriate thought in securing and presenting the gavels. She has a nice little apiary at her summer home in New Hampshire, where she goes from Chicago early each spring and returns in the fall. She cares for the bees herself, and has been quite successful with them. She once told us that she thought that all nice white comb honey should bring at least 50 cents per pound in a retail way! Of course, very few people could afford to pay that price, but it serves to show how enthusiastic she is in bee-keeping, and how much she appreciates honey.

All who were present at the convention when the gavels were presented by Dr. Miller seemed to be greatly pleased with the whole event. As they were passed around afterward and examined by various bee-keepers, they seemed to be unable to agree upon the kind of wood used in making the gavels. Prof. McFarland, who was instrumental in securing the wood, explains the matter quite fully in the following, which has kindly been sent to us for publication:

> Dr. C. C. Miller, Marengo, Ill.
>
> *Dear Sir:*—Allow me to do a little more than merely giving the name of the wood of which those gavels were made. Here in Ohio the tree is called "Linden." When the forests in Ohio were far more extensive than they are now, I have seen Linden trees from 3 to 4 feet in diameter. The tree is indigenous in Ohio. It bears a blossom which bees greatly like; and the honey gathered from these blossoms was the kind which Mr. Langstroth thought to be most delicate of all. When Mr. L. came to Oxford, in 1859, more than half the original forests were gone. We lived on the border of the town—his place outside the corporation, and extending about 400 feet along the line. My place was just within the town limits—and extending very nearly a like distance—a street 4 rods wide separating our lands. On the side of the street bordering on his land there were no shade-trees. Our houses were on different sides of the street, and nearly opposite to each other, 60 or 70 feet from the border of the street. On my side, I had a row of 8 or 10 maple-trees. About 1863 or 1864, Mr. L. set out 8 or 10 *Linden* trees—say 2 inches in diameter at the time—for "bee-pasture" in after years. I was with him when the work was done. With a sharp knife he cut off all the broken or injured roots of the saplings, cutting on the underside of the root. He said it would greatly aid the tree in getting a good start to grow. The trees to-day are about 10 inches in diameter. When I went to get a limb of which to make the gavels, the lower limbs were too high for me to reach. Just then my neighbor, Mr. Miller, came along in a wagon, and I asked him to drive under the limbs, that I might be able to reach them. He did so, and I cut off a limb from a tree which I had helped Mr. L. plant nearly 40 years before. I took the tree which stood most directly in front of his house.
>
> I thought a little account like this might be more acceptable than the bare name of the wood. I knew Mr. L. from 1859 to the day of his death—nearly 40 years afterwards. He was a graduate of Yale, and was tutor of Latin in that college 4 years, while Loomis was tutor in mathematics. Loomis wrote the best series of mathematical text-books I ever saw—I used them for more than 30 years.
>
> I am greatly gratified to know the spirit in which the gavels were received by the people. Mr. L. was as noble a man as I ever saw. He had only one son, who, at the beginning of the Civil War, was about 21 years of age. In 1862 the students here formed a company of soldiers and elected me as captain. Young Langstroth belonged to the company. The first summer was spent in West Virginia. In 1863 the regiment was reorganized. Langstroth was promoted to a first lieutenancy, and took part in the East Tennessee campaign, under Burnside. Five or six years after the war he died from pulmonary trouble. I will send you, in a day or two, a small pamphlet concerning one part of that campaign. From the fact that Mr. L.'s son was in that expedition, I thought you might like to read the account.
>
> Very cordially yours, R. W. McFarland.
>
> Oxford, Ohio, Jan. 20, 1906.

There is an additional appropriateness in that the wood of which the gavels are made is linden, or basswood—not only a favorite of Father Langstroth, but also often a fine nectar-yielder. Surely these gavels will be prized by the fortunate recipients.

* * *

Bees Tearing Pasteboard.—Dr. G. Bohrer, of Kansas, received from Wm. Cutter, a fruit-grower in the same State, two pieces of pasteboard torn down by bees, and the question, "If a bee can not break through a grape-skin, how did it do this?" To this, Dr. Bohrer replied as follows:

> Mr. Cutter:—Yours containing pasteboard picked and lacerated by honey-bees came duly to hand. In reply I will say that the pasteboard is *not cut at all.* It is, as you are aware, felt goods. The bees began at the edges of the pasteboard and picked it apart. Fruit-skins are of an entirely different texture, and can not by any possible means be picked apart as the pasteboard you sent me has been. The jaws of the honey-bee are not made for cutting, but are made to press wax, and weld and shape it into honey-comb. The yellow-jacket, wasp and hornet have sharp jaws made for cutting, and they can cut through the rind of grapes and other fruits.
>
> Please put the jaws of a honey-bee under a powerful magnifying glass, and you will see that they are simply paddle-shaped, and when closed fit neatly together. They can not cut anything, but they can pick any felt or fuzzy bodies to fragments.
>
> G. Bohrer.

The pasteboard pieces seem to show that they were parts of a pasteboard separator, as they were somewhat propolized. But this is only our guess.

* * *

Indiana Fair and Apiarian Display.—We have received the following from Walter S. Pouder, of Indianapo-

lis, in reference to the next Indiana State Fair and its apiarian display:

The Indiana State Fair, which begins Sept. 10, 1906, has offered $258 in premiums in the bee-department this year. Competition is open to the world, and no restrictions required. For this liberal offer much credit is due Mr. Mason J. Niblack, of Vincennes, a member of the State Board of Agriculture. Mr. Niblack will have personal charge of this department, and as he is an enthusiastic bee-keeper, this means that exhibitors will have fair treatment, and that efficient judges will be appointed. Bee-keepers from everywhere are invited to come and bring the best they can produce. Here is the list of premiums in full:

	Premiums—1st	2d	3d
Display of comb honey, quality, quantity and manner of putting up for market considered	$25	$15	$8
Display of extracted honey, quality, quantity and manner of putting up for market considered	25	15	8
Display of beeswax, quantity and quality to be considered	10	8	6
Honey-vinegar, not less than 1 gallon, in glass	5	3	2
One-frame observatory hive of Italian bees, showing queen, workers and brood in all stages	10	8	6
One-frame observatory hive of foreign bees, other than Italians, showing queen, workers, and brood in all stages	10	8	6
Display of bee-supplies	20	10	5
Best general display of honey, beeswax, supplies, and other material pertaining to the bee-industry	20	10	5

Any one wanting a premium-list can get it free by addressing Chas. Downing, Secretary, State Board of Agriculture, Indianapolis, Ind.

WALTER S. POUDER.

We congratulate the bee-keepers of Indiana on their fine State Fair Premium-list. Surely they should put up a great display, and show themselves worthy of the generous treatment accorded them by their State Board of Agriculture.

Contributed Articles

The Best Size of Honey-Section

BY L. V. RICKETTS.

It seems that Mr. T. K. Massie, on page 370, has gotten the wrong impression of my meaning in that part of my article on page 252 referring to "good company." Of course, I consider Mr. Massie and Dr. Bohrer, as well as all the other writers in the "Old Reliable," as good company. Yet I suppose Mr. Massie will allow me to "go it alone" (as far as Mr. Hasty is concerned) on the subject of full-weight sections; and especially after Mr. Hasty has said that he could not join my procession.

Mr. Massie says that he indorses all that has been said against the use of lighter weight sections. "But when Mr. Ricketts proposes to adopt a section 1⅞ inches thick, I emphatically object. There are too many objections to combs over 1⅜ inches thick, to adopt the thick ones he proposes." Mr. Massie proposes a section 4¼x5x1⅜ inches, saying that such a section will hold (average) a full pound.

Now, in the article referred to by Mr. Massie, I mentioned only the 1⅞ bee-way sections. I have proven (as stated in a previous article) that in this part of the country 4¼x4¼x1⅞ bee-way sections, when fairly well filled with separatored honey, weigh an average of only 14 2-3 ounces. The heaviest section of the ones used in arriving at the average weight, was a 4¼x4¼x1⅞, two-bee-way section, well and evenly filled with separatored honey, the comb averaging 1½ inches thick and weighing 16 ounces, wood in the section included. A comb of separatored honey, 1½ inches thick, I believe is as thick as we are likely ever to get in a 1⅞ inch bee-way section; and the average thickness, I believe, from repeated observations, will not be more than 1⅜ inches. A comb of this thickness in a 4¼x4¼ section will not weigh 16 ounces.

Now, if we should adopt a bee-way section 4¼x5x1⅜ inches, as Mr. Massie proposes, the average thickness of the separatored combs would likely be not more than ⅞ inch. This I consider to be too thin for general satisfaction—too much comb-foundation and capping, and not enough real honey. I think there is little danger of getting many combs thicker than 1⅜ inches built in 1⅞-inch sections with separators.

As a farther proof that the 1⅞ inch section is not generally considered too thick, I will cite Mr. Root when called upon to speak on "Size of Sections." He said, "At present in the United States, sections sell in this order; The 1⅞ bee-way 4¼x4¼ sections sell best." (Page 340.) Mr. Root is, of course, good authority on this subject.

If Mr. Massie had proposed a 4¼x5x1¾ inches, bee-way sections, instead of one only 1⅜ inches thick, I might have joined his procession, as the 4¼x5x1¾ section was carefully considered by me at the time that I proposed the 4¼x4⅝x1⅞ section. The 1⅜ inch bee-way section is too thin for me.

The reasons for my proposing the 4¼x4¼x1⅞ inch section in preference to all others, are given on page 695 (1905), and I have learned no reason, as yet, to make any change. A section 4¼x4¼x1¾ inches is a good one, and, like the 4¼x4⅝x1⅞ inches, will weigh (average) 16 ounces when filled with separatored honey. Either of the two last-named sections is an improvement on the sections in general use at present, and if put into general use would increase the sale and consumption of comb honey more than anything else beekeepers can do.

Pullman, Wash.

Institutes and Conventions as Educators

BY PROF. A. J. COOK.

To-day education counts for more than ever before. "Educated fool," "book farmer," and other such phrases are more and more going into disuse. The reason is plain. Educated nations, no less than educated people, are forging to the front. "Little Japan" forced terms from "Big Russia" because she had laid firm hold of this best weapon in warfare as in peaceful employ—Education. The same good friend won the easy victory in the Franco-Prussian war, and has pushed Germany away to the front in all good lines of progress. General education, and ready opportunity to acquire the same, even for the poorest boy or girl, has more than aught else made our own country the best and grandest of the world. The same is true of men.

Carnegie once doubted the value of education in practical affairs. To-day he is its most able advocate and patron. He has seen education march to the head in the shop. Educated farmers in California—everywhere—are distancing those without culture. Even in our bee-keeping ranks, the Langstroths, Hetheringtons, Taylors, Hutchinsons, Hedrons, Doolittles, Millers, Hatches, etc., are educated men. True, not college-trained, all of them, but the college is not a necessary step to education, though a most helpful one. Horace Greeley was never in college, but who would say he was not an educated man? He would be first to say that the modern college would have made the steps much shorter and vastly easier.

UNIVERSITY EXTENSION.

Today one of the efficient agents in educating all—and especially the masses—is the Institute, Convention, etc. The college in every State goes to those who can not come to it. In agriculture this is the "Farmer's Institute." Our conventions, associations and clubs are of the same ilk. They all bring the college and scientific ways and methods to the people. So it is one of the glories of today, that the college is not the exclusive benefactor of those who come to its lecture-halls, but it reaches with its equipment and facilities to all classes.

THE FARMER'S INSTITUTE.

As one who has been actively engaged in institute work ever since Michigan inaugurated this *regular system* of education, in 1875, I have watched its growth and power with growing appreciation and pleasure. The farmer's institutes of the United States have done a marvelous work for our farmers. Through their teaching, methods of work and practice have been revolutionized in more than one State, and often to the tremendous gain of the farmers financially.

As every institute would have "Bees" and "Honey Production" on its program, so every bee-keeper should be interested in these meetings.

The Model Institute.

While I may not claim ability to sketch a model institute, I, from my long experience and observation, may be able to give hints that will help to make such meetings strong and helpful in a large degree.

First, the institute should be well attended. This aids in insuring enthusiasm, spreads the good seed far more rapidly, and makes the expense of the institute more than justifiable. To secure this, a preliminary meeting where a wide-awake expert—the institute conductor—meets 15 to 30 of the people of the place, is most important. At this time committees on arrangements, exhibits, decoration of hall, music, etc., are appointed, with the promise, at least, of the chairman that he will act. A program is sketched, which the committee will change as circumstances suggest, and arrangements made to advertise the institute in every possible way; not alone posting of printed notices, but if announced in schools and churches, it will help greatly. Of course the local press must be urged to give, as they are usually ready to do, the most hearty support.

Again, at least half the speakers may well be college professors, experts, and outsiders, who have made a decided success in lines of farm work. These increase attendance, and add tremendously to the interest and value of the institute. But we must never omit home talent. The wide-awake, successful man of the place knows conditions, and his dictum will often be the best word spoken. A goodly number of ladies should be on the program. This brings the wives and daughters, and doubles the value of the meetings.

Decoration of the hall much more than pays for the trouble, while no one can appreciate the good effect of a fine, well-labeled exhibit of fruit, grains and vegetables, till he has seen the interest that gathers about them.

Good music is helpful— at least two pieces each session—while a prayer to open each day's exercises, by the clergymen of the place, gives good tone, and is appreciated by most of our people.

An experienced and wide-awake presiding officer is most important. This may well be the one who has charge of institute work, with two or three vice-presidents from the place, whom he may call to the chair as conditions suggest. The question-box in the hands of a bright, wide-awake man who knows whom to call on to get the best answers—for no one man can, or should, attempt to answer all or generally a major part—will be a vital part of the institute, and may well take from a fourth to a third of the time of each session. This gives a much-appreciated opportunity to broaden the program.

Conventions.

Many of the above suggestions will apply to the State and County associations like our bee-conventions. It is especially desirable to secure a large attendance, and nothing helps in this more than the fact that an expert or authority—the more the better—will be present to address the meeting. How the presence of Langstroth used to fill our bee-conventions! Heddon, A. I. Root, Dadant, and Dr Miller would each and all bring a full house.

For one, I am in favor of written papers. They should always be as brief as may be. Such are more carefully prepared, and are likely to focus attention, and give the best that the author has to present. The question-box—which should never be omitted—supplements the regular program in an excellent way. This affords ample opportunity for extempore effort.

In all such meetings we must exercise to induce the fullest and freest discussion of all topics presented.

Good Bee-Cellar—Longevity of Queens—Watering-Place for Bees

BY F. L. DAY.

It was quite cold last fall at the time I put the bees into the cellar. After the roof of the cellar was covered with leaves and straw for winter it took about a week for the temperature to rise to 42 degrees. From Dec. 5 to April 5 it did not go above 43 or below 40 degrees. During this time the outside temperature varied about 100 degrees. The consumption of stores per colony was not more than 7 to 10 pounds during the 134 days the bees were in the cellar.

Two years ago the bees were in the same cellar 165 days. Then they had sugar syrup for stores, while the past winter they had a good grade of fall honey. On the whole they stood the longer confinement on sugar better than the shorter on honey. The 30 colonies came through the past winter without any loss, but several were quite weak. About 20 were extra strong, and in the best condition; 3 were queenless, and the balance ranged from fair to weak. Two of the queenless colonies were united with others having queens, and the other one has been nursed all the spring at a decided loss.

"Locality" Causes Loss of Queens.

On page 233, Mr. Hasty reviews the short life of my queens and makes a suggestion that "locality" may be the cause. But he finally *guesses* that it is owing to the strain of bees. I consider the former idea the better of the two. I have only two bee-keeping neighbors; one of these increased from 8 colonies to 30 last season by natural swarming, besides a number of swarms that went to the woods. He keeps no account of his queens, and, indeed, seldom opens a hive, except to put on or take off supers.

My other neighbor's bees swarm even worse, and he told me that he lost all his old queens last season on account of excessive swarming. These two lots of bees are of totally different strains from mine.

Hence I conclude that the excessive swarming of my bees and consequent loss of queens is mostly due to locality. I saved only one old queen last season, and did that only by taking her from her own colony and placing in a nucleus. Locality causes the swarming, and that the loss of queens.

Successful Watering-Place For Bees.

This season I have succeeded better than usual in furnishing my bees a watering-place which suits them. A common store-box was placed near the middle of the yard, on the ground, with one side removed. It was carefully leveled and fastened to stakes driven into the ground. The open side was turned south. Two grooved boards about 10 inches square were then made, with wide cleats on the under side to prevent warping. For each one of these a 2-quart mason fruit jar was used. To 1 of these when filled with water was added a tablespoonful of salt each time. The other jar was filled with fresh water. The jars are inverted on the boards and the water fills the grooves which are about ¼ inch deep. Boards and jars are then put into the box.

The bees much prefer the salt water, of which they take about 5 times as much as of the fresh. The salt-water jar is often emptied in one day, sometimes in ½ day.

The jars are usually filled at night after the bees are done flying. On cold, rainy days they come to this watering-place by hundreds, and very few get chilled. They often take 3 quarts of water per day.

Detroit, Minn.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Comb Honey in Place of Queen-Cage Candy

Not having queen-cage candy, if comb honey were used in its stead, would the bees remove it to release the queen?

I trust to have something more interesting to offer at another time.

W. F. McCready.

The above question is just a little more important than it may seem, for I have had some experience in the matter of using comb honey, or honey with wax, in queen-cages just as in the question above. Sometimes—at out-yards, especially—I have used a bit of comb honey in place of queen-cage candy, and I can remember well how I lost the use of several fine queens by it. It seems that the bees eat out the honey and leave a greater part of the wax and remold it, perhaps adding thereto, building it into small comb in such a way as to obstruct the passage-way. The queen is thus left "behind the bars," and if an examination is not made some time soon after introducing the cage, it may cause trouble.

I have tried candied extracted honey, when the weather was not too warm, with success. If the candied honey is not very solid there may be trouble by the queens being released too soon.

Cotton Honey—Beginners and Easily Discouraged Folks

Cotton is one of our very best honey-plants, and especially is this true where it grows on black, waxy land. Cotton grown on sandy land does not yield nectar as plentifully as it does on black land. This, I think, accounts for some saying that the cotton-plant is not a honey-yielder with them. One of the heaviest honey-flows I ever witnessed was from the cotton-bloom. The honey is water "clear," and of good body and flavor, and I consider it the equal of any honey I ever saw; but like alfalfa honey, it is quick to granulate.

Don't be Afraid to Advise Beginners

I am receiving letters from all parts of this State, saying, "What is the matter with the bees—they have quit swarming and are killing off all their drones?" etc.

To the practical apiarist the question almost answers itself, but to the novice it is not so plain. When bees destroy and drive out their drones in the height of the breeding or swarming season, there is no surer sign to the experienced apiarist that no honey is being gathered, but to the novice it is not so plain.

Don't be afraid to give advice to the inexperienced on bees or bee-keeping for fear they will become competitors later. I tell you, bee-keepers are born, and not made. I have been handing out bee-literature and answering questions, loaning bee-books, etc., for more than 25 years, and it will not average more than one in ten who will stick to the bees after you have started them right. So, don't be afraid to start others, always remembering that you had to start once, and had it not been for the help of others where would you have been?

Bee-Keeping for Easily Discouraged Folks

I would not recommend bee-keeping to those who are easily discouraged in any business, for the time is sure to come in bee-keeping when their nerve will be put to the severest test. I confess, too, that at such times as the present, when the bees should just be reveling in honey, that we are compelled to feed for weeks at a stretch; it is trying on the nerves of some of us older ones in the business. We have now been feeding the bees for nearly 6 weeks, and we can hardly hope for a change for the better before June 10.

Rescue, Tex., May 10. L. B. Smith.

Our
Bee-Keeping
Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Honey Superior to Sugar as a Nourisher

For the many sisters who are constantly on the lookout for that which shall best serve as nourishment for their loved ones, here is something from the Praktischer Wegweiser fuer Bienenzuechter that can not fail to be of interest:

Sugar contains in large quantity that which is needed to support the body, but before the material it contains can be received into the blood, a change in it must be made by the stomach. That change, separating the two kinds of sugar chemically united, demands strength, exertion, of the stomach. A weak stomach, however, has not the necessary strength, and so the sugar remains either wholly or in part undigested. Such undigested sugar is not received into the blood, but passes out with the excretions. Not only is no benefit received from it, but actual harm; for on its way through the alimentary canal it causes abnormal fermentations, producing disease of stomach and bowels.

The sole sugar-containing material that first requires no digestive process is honey. As water, in certain quantity, passes fully and directly into the blood, so honey, without leaving behind the least trace of residuum, passes directly into the blood, and serves for the warmth of the body and the development of vital power. Honey, even though not able alone to sustain life, is a most excellent nutrient.

Not only is honey an excellent food, but it is inexpensive. In order to get the same nourishment offered by a pound of honey, 3 pounds of lean beef must be used, or 2 pounds of eggs.

Souvenir Post-Cards—Bee-Keeping in Colorado

Dear Miss Wilson:—We have been photographing everything photographable on the ranch—colts, dogs, pet lambs, *and* bees. I do not know whether you suffer from the post-card mania, but anyway I am sending you two post-cards of my apiary.

I brought all my 46 colonies through the winter to the middle of April, and felt quite proud. Then I went away from home for a few days, and the bees seized their chance to rob out a weak colony, and the queen died in another. I also doubled up another weak one, and so reduced my colonies to 43, spring count.

Yesterday I divided a double colony, which I have been trying on the Alexander plan—a weak colony over a strong one, with an excluder between. It was quite a success. Three weeks ago the top hive had only 2 combs of brood. Yesterday it had 7 frames covered on both sides, and both hives packed with bees. Of course, it lost its field-bees when I took it to another stand. I have another on the same plan, but it is not quite ready to divide yet.

By the way, what do you usually mean by a *comb* of brood? Would brood on both sides of the frame be one comb, or two?

So far I have had only 2 swarms, and I am rather hoping, from the look of things, that it will not be a year of excessive swarming. The alfalfa is just beginning to bloom, so the bees and bee-keeper are looking forward to a good honey-flow.

I wish you all success with your own bees. Miss Colorado.

Delta Co., Colo., June 9.

Please accept hearty thanks for the pictures you so kindly sent. They are so interesting that they are being lent to the editor in the hopes that they may be available for reproduction, so that the rest of the sisters may enjoy them, too.

You are to be congratulated on your success with the Alexander plan of strengthening a weak colony. We tried it, and with us it was a failure. Possibly because our bees were hybrids.

A comb of brood means all that is in one frame, including both sides of the comb. A frame of brood is the same as a comb of brood, and for short is called "a brood," so when we say a colony has "6 brood," it means it has 6 frames fairly well filled with brood; or, to be a little more definite, that at least half the cells in each frame are filled with brood.

[We would like very much to use the two pictures of Miss Colorado's apiary, but, unfortunately, they are "blue prints," which do not engrave well. If she can send them to us in usual photographic color, we will be pleased to put them in this department some week.—Editor.]

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,'" written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

What Attracts Bees to Flowers

A short time ago a long article in the Mail and Empire showed conclusively that bees are attracted to blossoms by nectar and pollen regardless of color or perfume. Now the same paper copies from the Agricultural Epitomist, a paragraph stating, without proof, that "the attraction exercised by the form and color of flowers is approximately four times as great as that exercised by perfumed pollen and nectar taken together." That the latter statement should be true is contrary to Nature, reason and facts.

Outlook Not Promising

The bees are pretty nearly at a stand-still with us just now. The fruit-bloom was short and the clover is just coming in. The thermometer this evening is down to 48 degrees, and the outlook is not at all promising for a good honey-crop, but it may improve in a few days. We will hope for the best. J. Creech.

Lambton Mills, Ont., June 11.

Bee-Paralysis in the North

We generally consider this disease hardly worth serious consideration in the North, yet occasional experiences and reports from correspondents show that it is well worth looking after.

Unlike foul brood, the disease seems to attack only adult bees. In the hive, at watering-places, even on blossoms where they are collecting honey and pollen, they suddenly become palsied, abdomens swell and turn black. They crawl about, trembling violently, and soon die. A correspondent writing just recently gives his experience as follows:

> Mr. Pettit:—I have a colony of bees which seems to have something seriously wrong with it, and as you are probably the nearest bee-man of experience, I am taking the liberty of asking your advice and experience on the subject.
>
> I transferred the colony from an old chaff hive into an 8-frame Langstroth hive in apple-bloom time. It built up remarkably well, and had commenced work in a full-depth super of combs. Yesterday morning (June 15) I noticed about a pint of dead and dying bees in front of the hive, and a great many sick ones crawling through the grass. The other bees were at the same time hauling out dead and dying bees, and have been doing so ever since.
>
> Upon opening the hive I noticed a great many which seemed sick, with their wings sticking up, and their bodies shiny. I did not know what it was, and this evening I took the advice given in "A B C of Bee Culture" on bee-paralysis, and shook all the bees into a new hive of comb, at the same time dusting sulphur on the bees and comb. The old frames of comb and brood I placed upon another colony, minus any bees.
>
> Do you think it looks like bee-paralysis? The combs I shook the bees upon in the new hive had about 25 pounds of honey in them. Will that do any harm, or should they have been placed upon new frames of foundation? I do not know if what they have is catching, and judging from the way they have died it would soon ruin an apiary if it is contagious. Your opinion would be greatly appreciated.
>
> By the way, I did not give the super which the diseased colony had been working in to any other colony. All my other colonies seem perfectly healthy. H. A. Smith.
>
> Palermo, Ont., June 16.

Some recommend sprinkling brood and bees with dry sulphur, but this is rather contradictory to the advice we had recently to sprinkle drone-brood with dry sulphur *to kill the brood*. Sprinkling top-bars of brood-chamber and entrance freely with brine is recommended. Salt is certainly a great disinfectant.

Another digs a trench in front of the hive for the dead and dying to be dropped into, and gathers them up and burns them every day or two to prevent contagion. No matter what the treatment, the disease usually disappears in a good honey-flow, after having done considerable damage. Still, it should be thoroughly investigated by our scientific men. Reports from such, and from all who have had any experience, will be of mutual benefit to "Canadian Beedom" readers.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Weak Colony Over Strong and No Bee-Zinc

So it turns out (just to surprise us) that in keeping a weak colony warm over a strong one, it is not absolutely necessary to have perforated zinc between. "Nebraska," without any zinc, lost fewer queens than several did who used excluders as per program. Page 429.

Bees Warming an Empty Upper Story

As to the Miller-Doolittle experiments about making a colony warm an empty upper story, I will not dip in very deeply. I'll just say this much: If the upper story *is warmed* (9 degrees, or 22 degrees, or any other amount) it is warmed in one or both of two ways—by warm air rising, or by radiation from the body-surface of the bees—and their immediate surroundings. In winter very little air passes through the cluster to rise afterward, the cluster is so solid. After spring work begins, indoors and out, more air gets through because the bees are not compact, but moving about. In winter the surface bees can not radiate much heat—they are so torpid and cold; and the warm ones are not exposed. In spring the radiation is considerable because the surface bees are warm. Page 441.

Uncapped Bait-Sections of Honey and Granulation

It's surely a very comforting doctrine to believe that bees will always empty baits if the cappings are broken. Doolittle ought to know. My faith would be too weak to trust 12 of them on one hive. I never, of late years, have so many as even 3 to a hive; and I manage to use them mostly when the bees are *hungry* and ready to take out the honey because they want it. Guess he's right in scouting the idea that just a few granules can be harbored in empty cells and plant seeds of future granulation, somewhat as microbes plant the seeds of diseases. Page 444.

Foul Brood in Ontario

Ontario's new foul-brood law seems to be unusually vigorous and severe. For selling diseased bees a $400 fine can be inflicted, or two months in jail. And it looks as if McEvoy had failed to convince the Canadians, as a whole, that hives are harmless. Hives are ordered destroyed when the colonies are destroyed. Page 446.

Mesquite for Honey and for Rhyming

And so the mesquite, which same grows in the arid southwest—and piles in much exquisite honey—is so pronounced as to rhyme with "sweet" and "beat." Worth four stanzas to find out. Page 448.

Alley's "Two Queens"—Laying of a Queen-Bee

Arrah, Comrade Alley! That was a foine bargain the widder drove with ye. Wouldn't sell ye the quane except in a job lot—with herself for one item. And ye had to have the quane all the same!

Mr. Alley gives us some mathematics of the knock-down sort. Impossible for a queen to keep 14 frames full of brood except by laying 111,384 eggs every 21 days. We

strain hard enough to believe a queen lays 2000 eggs a day; and this calls for 5304. Four eggs a minute, very nearly, with no allowance for any resting spells night or day—or meals—for 3 weeks. Did you ever watch the minute hand of a watch and count off the quarters? Come down a cat or two, Mr. Ferris. Page 445.

Holy Land Bees

Mr. Scholl's characterization of a colony of Holy Lands, all on the wing at once in their fury, is not attractive to quiet folks. If we had 'em we should hardly be developing into the happy Joes he seems trying to make us in his closing paragraph. Page 448.

Color of Honey Varied in Different Years

Prof. Cook doubts seriously if honey purely from the same plant is ever of different color different years. I think he would yield to this small extent on that point. A honey which is very light in color when the yield is profuse may be considerably darker when the yield is small. Take basswood for example: About as white as the whitest in a great yield, but quite perceptibly yellowish in a year when basswood only yields just a little. That is, I suppose, the amount of yellow coloring-matter secreted is about the same one year as another—enough to show plainly when there is but a trifle of nectar to mix it with, but scarcely enough to be noticed in the gush of a 10-pound-a-day flow. Page 463.

Convention Proceedings

NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 581.]

PRESENTATION OF LANGSTROTH GAVELS.

Dr. Miller—Mr. President, I am commissioned to present, through you, Mr. Dadant, to the National Bee-Keepers' Association, a gavel whose source can not fail to make it an object of interest to every bee-keeper present. It is also my pleasant task to perform a like service, in presenting its mate to the Chicago Northwestern Bee-Keepers' Association, through its President, Mr. George W. York.

The loving heart of a good friend of both Associations conceived the idea of obtaining two gavels which should be constant reminders of the man to whom apiculture is so greatly indebted—Rev. Lorenzo Loraine Langstroth. So an appeal was made to Dr. Dan Millikin, of Hamilton, Ohio, to see whether he could not secure a piece of wood from a tree in some way associated with Father Langstroth. Dr. Millikin in turn applied to Prof. R. W. McFarland, residing in the same county, at Oxford, where Langstroth lived for so many years.

In reply came a package and a letter in which Prof. McFarland wrote, in part, as follows:

LETTER FROM PROF. MCFARLAND.

The weather was so disagreeable to me, and my physical self so much under the weather, that I did not get the Langstroth limb until sunset, Thursday. * * * I saw Mr. Langstroth while he assisted in planting the tree, nearly 40 years ago. I held the end of the limb yesterday, while my neighbor sawed it off. So your friend may be assured that this is the genuine article.

While I was young, and was on my father's farm, 65 or 70 years ago, I was accustomed to attend the bees on our place. After seeing Mr. Langstroth's way, I saw that the old farm way was crude in the extreme. I assisted Mr. Langstroth 2, 3 or 4 weeks every summer for 10 or 12 years in the busy season. * * * It was a "joy forever" to be with Mr. L. and hear day after day, the simple, lucid words of wisdom which set forth the hidden things of nature and made you see them—and all unconsciously, so to say—things which among the bees he had seen and found out for himself.

Mr. L. was one of the finest men I ever saw—the very highest style of man. Having personally known him for more than 30 years, I may be able to give a point or two.

He was native of Baltimore; graduated at Yale College; became a Congregational minister; had charge of a college for women in Philadelphia for some years; lost his health and had to give up teaching; stayed a year or two in Mexico, hoping to regain sound health, but never did; studied bees and *mastered the subject*. For 6 months of every year—the winter months—he was unable to work at anything, usually kept himself closely in his room, but in the summer he was sunshine itself. His death well closed out a beautiful life. In the city of Dayton, Ohio, he was staying with a married daughter after the death of Mrs. Langstroth, and in church, one Sunday morning, he had just concluded the opening part of his services, preparatory to administering the sacrament, when taking his seat, in a moment his head fell on his shoulder. Men rushed to him and gently laid him down—but he was dead. R. W. McFARLAND.

You will likely want to know more about this man who for 10 years or more helped Mr. Langstroth for 2 to 4 weeks each year. A letter from Dr. Millikin tells something about him. This is a private letter, but is so thoroughly interesting and enjoyable throughout that I cannot forbear reading almost the entire letter. Injunctions have been laid upon me to say as little as possible about the donor of these gifts, but a full appreciation of this letter demands that you should know it is written to Mrs. J. J. Glessner, of Chicago, the one to whose kind thoughtfulness we are indebted for these precious mementoes. I shall read the letter just as it is, and trust to making my peace with Mr. Glessner as best I may afterward, for any betrayal of confidence:

LETTER FROM DR MILLIKIN.

Dear. Mrs. Glessner—I am about to send you some wood from the Langstroth place—it shall go by express to-morrow.

When my wife made known your needs to me I thought at once of my father's friend, and my brother Joe's teacher and colleague, Prof. R. W. McFarland, of Oxford. He was an authority in classic learning ever so long ago, and an editor of one or two good editions in Latin. He was a mathematician so high in the second class that it always appeared that he ought to break into the class of thoroughly great imaginative mathematicians. He was no mean astronomer. He was a practical civil engineer. He lived long enough to become a very useful and successful mining engineer. He was a college president in spite of his many protests. He was, and is, a very enthusiatic naturalist. They don't make any such men now. Rockefeller and Carnegie together couldn't turn out more than two in a long year.

I think that Prof. McFarland is nearer 80 than 70 years. I hear that his locomotion is seriously impaired, and that his sight is also failing. Yet the letter which I enclose for you shows that he has at least one good eye. He is quite in retirement (the delightful retirement of an old scholar), but his influence upon the young disciples who love him and cultivate him, by far outweighs the impression of all missionaries to Africa, past, present, and to come.

I have written my politest letter of thanks to him. It is pure impudence in me to ask you to do the same and delight the soul of the gallant old gentleman.

Do you know that this is a case of "*me, too?*" *I* knew Langstroth very well, and I knew him at a very impressible time of my life. When I was about 16 he came down to Maplewood, where my father had about 20 hives of bees. At that time the enemies of the bee were apparently less destructive than now, for those neglected bees had persisted and they throve through many years of comparative neglect. Occasionally it was found that a colony had died out in the winter, whereupon the hive was cleaned, sulphured, painted and set away for the swarms that were sure to appear when the clover and hot June days came. My father did not go near the hives; my mother worshipped the little bees because they were the pets of her father who "died in '57." An old

English gardener managed to steal a little honey now and then, but I do not remember at all how he got it; I only know that neither father nor mother would consent to the killing of bees with sulphur in order to get the honey.

There came a time when Langstroth hives were made in Hamilton. The manufacturer was authorized to sell hives to my father, with the condition that Langstroth himself should come down from Oxford and transfer the bees, and he was so insistent that my father bought 30 hives to get rid of the pestiferous sash-and-window-blind man!

So in June, after I was out of school, and when the bees were busy with white clover and locust, here came Langstroth to the big farm. He was a large, slouching man, with a tendency to heaviness in the face. When the sodden look disappeared pain was the predominant expression. I do not now remember that he ever smiled. He came in a Lincolnian linen duster, and his other clothing was tidy and shapeless.

We received him in such fashion as became a freakish mechanic and inventor. It was many hours before I learned that he was a graduate of Yale, and hours again before I knew that he was an ordained Presbyterian minister. Later he was revealed to me as one who lived chiefly for the good of others. I fell wholly in love with him when I found that he was an out-of-doors man, a profound naturalist, and, in every fibre, a poet.

I learned, months after, that his career as a teacher and a preacher was spoiled by fits of melancholy. During these seizures he was often unable to endure the sight of a human face for many days together, and he was sometimes obliged to seclude himself from the public for many weeks consecutively. At the worst he fasted incredibly. When all was over, he would come forth, a staggering cadaver, slowly and shyly to resume his place in the family and in society. It is a marvel that, like most geniuses, he did not learn to blunt his pain with alcohol, or end all with suicide. When I had learned that he was under the curse of genius I comprehended his countenance better, and I came to doubt that the cloud ever lifted from his noble mind. If I mistake not, he died at the top, and achieved the only rest possible for such as he.

Well, I watched him from afar; I brought him dry and rotten maple wood and saw him subdue the bees with smoke. When they were gorged he inverted the old hive and drove his tens of thousands into an empty box set upon it; I saw the myriads shaken upon a sheet; I noted the orderly march into a Langstroth hive. We took the old hive to the cellar and mounted the combs as well as we could in another Langstroth hive, and we soon drummed out another colony of bees to take possession, and that day I graduated an apiarist. It was the first of many happy days with Langstroth and bees. DR. MILLIKIN

Dr. Miller—Mr. President, may the peace-loving spirit, and the spirit of unselfishness that pervaded the entire life of Langstroth, be present at all our sessions, whenever and wherever these gavels are wielded.

Pres. Dadant—The thoughtfulness which prompted this gift can only be rewarded by a vote of thanks from the Association and I will await the motion.

Mr. Taylor—I make the motion.

Dr. Bohrer—I second that motion; and before the motion is put I wish to supplement Dr. Miller's statement. A remark occurred in one of the papers that they had never seen Mr. Langstroth smile. I met him at one time and I think he was one of the jolliest men I ever met. That was in 1864. I was home from the army on furlough. I didn't see him any more until 1866, when I happened to catch him in his apiary when one of his attacks of melancholy was on. He was out in his apiary when I came to the gate and opened it, and I went right to him, and it was where these gavels were taken from, at the brick house standing in the grounds in Oxford, Ohio. He recognized me and shook hands with me, and said, "Please excuse me and talk to Mrs. Langstroth and my son James." That day, however, he did not smile. I saw him at what was known as the American Convention of Bee-Keepers, in Cincinnati, a few months later, and he did not smile there. It was a short time after he had lost his son, James T. Langstroth, and he asked me if I had ever endured any such experience as that. I said, "Not in the way of a son, but I have lost some near and dear friends. The most I can say in cases of this kind is to look to the Mighty Physician, and in addition to that the record of your son is one no one need blush at." The old gentleman did not smile. I think the Association ought to accept this gavel as a memento, and it should be guarded and looked after with jealous care because he was one of the greatest men in bee-keeping that the world has ever known. There probably will never be another man live that will do so much for the profession as did Mr. Langstroth.

Mr. Hilton—I will now move to amend the motion, that the vote be given by rising.

The President put the motion as amended, and on a vote being taken it was carried unanimously.

Pres. Dadant—I wish to say the Presidents of both Associations will take good care of these gavels, and that they shall be handed from one President to another as long as the Associations last.

Dr. Miller—One little personal remark. At one time when I was for some part of the year working in Cincinnati, I went up to see Father Langstroth at Oxford, and I did not see him, he wasn't there at all. A very short time after that I was working in my office down in the city preparatory to the first of Theodore Thomas' May festivals, and Mr. Langstroth came in and we had quite a pleasant little visit. I was unknown entirely to him, and owing to the fact that an obscure bee-keeper had called to see him, he came back to see me. I think it shows the humble spirit of the man.

Mr. York—I would like on behalf of the Chicago-Northwestern Association to thank the donor of the gavel, and it seems to me it is a very strange coincidence. I knew nothing at all about this, but about a month ago I designed an idea of having Mr. Langstroth's picture on the front page of this paper, and a poem that had never been published before, that he mailed to me over 10 years ago. I had the pleasure of meeting Mr. Langstroth at the Toronto convention, in 1895. I think Mr. Hutchinson will remember I went to Flint on my way to Toronto, and I believe it was near the Port Huron tunnel that Father Langstroth and his daughter, Mrs. Cowan, boarded the train; but I had never seen him before that. After we had ridden some miles Mr. Hutchinson said, "I believe that is Father Langstroth." They traveled nearly all day with us in the car, but we did not speak to him. At that convention I had the very great pleasure of meeting Father Langstroth, and talking to him for about two hours in the hotel while a number of the bee-keepers went to visit the Exposition. It seems to me I never had been so entertained with any conversationalist as I was at that time with Father Langstroth, and I have been thankful to this day that I went to Toronto and had the pleasure of meeting the great Father Langstroth.

Mr. Aspinwall—Although I have been a resident of Michigan for 23 years, my home was originally in New York State, and my acquaintance with Mr. Quinby was some considerable, and up to the time of 1895 I had never met Mr. Langstroth, and I fully endorse the remarks made by Mr. York, of the courteous manner in which he received strangers and guests and entertained them. Previous to my return home, Father Langstroth, upon that short acquaintance, volunteered to send me an autograph copy of his work, which he did shortly after that session. I merely state this to show the spirit of the man as manifestly displayed by the remarks of Dr. Miller, that he lived largely in the interests of others.

Pres. Dadant—I wish to state that this gavel is engraved as follows: "Wood from tree planted by Rev. L. L. Langstroth in his garden in Oxford, Ohio. National Bee-Keepers' Association, 1905. F. M. G."

Mr. France—I would like to request on behalf of the Association, if they would favor it, that the Association draw upon its funds sufficient to have Father Langstroth's picture framed and hung in our convention halls at future meetings. I would move that. (Applause).

Dr. Bohrer—I second the motion.

Pres. Dadant—It will be understood that the motion is simply to recommend this to the Directors.

The President put the motion which was carried unanimously.

Dr. Miller—With your permission I would like to read the poem that Father Langstroth had written which has never been published till just now. It is entitled, TO MY WIFE IN HEAVEN.

Wife of my youth—I dream of thee,
Arrayed in bridal form;
I hold in mine thy trusting hand—
Hail! happy marriage morn!

To God we vow our glad "I will"—
Thy soft, responsive voice—
Of twain made one by wedded bands—
And I, with thee, rejoice.

Sweet, loving wife—God's gracious gift—
And art thou all my own?
This plighted hand I'll closer clasp—
Dear Lord! I wake alone.

Ah! Silent lips, whose law of love
So gently swayed my will,
When trusting in thee, heart to heart,
We were united still.

Weeping lasts but a night, dear wife;
Joy cometh with the light;
But for a moment darkened days,
Then where there is no night.

Both shall be present with the Lord,
Grievings and partings past;
Soul knit to soul by Heavenly bands
While lengthening ages last.

Dr. Bohrer—I received a letter embracing that sentiment a few days after he buried his wife.

Mr. York—I think it ought to be made a matter of record that Dr. Bohrer was present at the first meeting of this Association, and is present at this meeting.

The convention then adjourned to meet at 2 p. m.

(Continued next week.)

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Some Swarming Questions

What is the reason my queen and cells were destroyed? I had a 5-banded Italian colony and wanted to Italianize part of my apiary as described in your answer to "Pennsylvania," on page 390, in the last part of answer to Ques. 4. I will give you the whole history of it: The Italian was in hive No. 20. On June 4 I looked for queen-cells, and there were eggs in them probably 2 days old, but no larvæ. On June 6 they swarmed. I looked for queen-cells and found 12 with larvæ and eggs. The swarm clustered on a limb. I cut the limb and shook them in front of a hive. It was windy, and when I shook them they all took wing and started off. I made for the gun and shot 6 times, but they wouldn't stop. What was the reason? It has never happened before. So I exchanged No. 20 with No. 11, and it cast the second swarm on June 18; I set hive No. 20 in the place of No. 9. It rained that evening and the next evening, and at sundown I saw a big excitement in front of the hive. I looked and saw a dead queen they dragged out, so I quickly opened the hive to save the rest of the queen-cells, if any left; but about half the queens had emerged and the rest were destroyed. I had a large entrance to the hive, 1½ inches. But the hive was crowded with bees and honey coming in when it wasn't raining, and lots of honey in the hive. Now, what was the reason they didn't continue swarming? MISSOURI.

ANSWER.—I don't know. Bees do exceptional things, and it's hard to give any reason for it. In the first place it is an unusual thing for a prime swarm to issue before queen-cells are sealed; and yet your bees swarmed June 6, when 2 days previously only eggs were in queen-cells. That means they swarmed at least 3 days before any cells would have been sealed. I don't know why.

The second unusual thing with you was that shooting did not stop the swarm from going off. That does not seem so very strange; for a swarm does not always pay attention to shooting. When a swarm is shaken from a limb it usually does not leave, but alights again. Sometimes, however, it takes its departure upon being shaken down, and this time was one of the "sometimes." I don't know why. But it may be remarked in passing that you *shook* the bees in front of a hive, after cutting off the limb. It is entirely possible that the swarm would have quietly entered the hive if, instead of shaking the bees off the limb, you had gently laid the cluster directly at the entrance, perhaps helping matters by picking off a few bees with a twig, and starting them into the entrance.

The third, and most provokingly unusual thing, was that No. 20 did not swarm again after being put in place of No. 9. The explanation comes, however, *if* it rained throughout the day after the change was made. As I understand it, you put No. 20 in place of No. 9 June 18, and it rained that evening and the next evening. Now *if* it was rainy enough throughout the day June 19 to keep bees from flying much, then it was much the same as if No. 20 had been left unmoved, and it would be nothing strange that No. 20 should be sufficiently weakened to make the bees give up further thought of swarming, allowing all extra virgins to be destroyed. If, however, June 19 was rainy only in the evening, allowing bees to fly freely throughout the day, I can only say it was an unusual thing that the virgins were destroyed without further swarming, and I don't know why.

The one comfort in the case is that unusual things are not usual, and so you are not likely to have the same things occur often; possibly never again.

Cutting All Queen-Cells to Prevent After-Swarms

Will cutting out all queen-cells but one a few days after a colony swarms prevent the issuing of after-swarms? I tried this one season, but was unable to watch results. IOWA.

ANSWER.—Tradition says the plan is successful, and I know of no proof to the contrary. If you try it, be sure to report success or failure.

White Sweet or Yellow Sweet Clover—Northern or Southern Bees and Queens—Wintering Bees—Finding Wild Bees

1. Which is the better honey-producer—white sweet or yellow sweet clover?

2. For Southwest Missouri which would be the better to send—South or North for bees or queens? Which would do the better?

3. A neighbor has a colony of black bees and lots of them are curious looking. They have no hair, and look very much like a small, black, slick horse-fly. The other bees fight and kill them, and the ground is covered with them around the entrance of the hive. What is the matter with them?

4. What do you think about wintering bees under a heavy bluff facing the South where she sun could shine on them?

5. Do you think bees would do well in the rough, hilly southwest Missouri country, where there is plenty of red, white and sweet clover, basswood, sugar-tree, sumac, and many other things the bees work on? We have lots of wild bees in the timber.

6. Have you any secret or good way to find wild bees in the timber? If so, come down and help me a month, and I'll give you half of the fun, all the honey, and I'll take the bees. MISSOURI.

ANSWERS.—1. Probably not much difference in yield, but the yellow is reputed to be about 2 weeks earlier than the white. That makes the yellow more valuable in some places, and the white in others. Where white clover abounds the two weeks earlier would be of no advantage, as it would come in the time of white clover, and if the yellow also closes two weeks earlier than the white, the white sweet clover would be of more value. In localities where there is lack of forage during the first two weeks of the yellow sweet clover, then the yellow clover has the advantage.

2. You will probably find no difference.

3. Most likely bee-paralysis.

4. Probably a good place.

5. From the description it ought to be just the place for bees.

6. I never went bee-hunting but once, and that was one time when I was on a visit to A. I. Root, many years ago. He did the hunting and I trotted around after him. So I'm afraid I'd hardly earn half the fun and all the honey.

Queen and Hive Questions—Finding Queens

1. Are untested queens mated, or must I purchase tested queens to be certain to have pure blood of any strain desired?

2. What is the difference between standard Italians and red-clover Italians?

3. If I rear some queens early next spring, could they be mated in the upper story of the hive before it is warm in the spring?

4. Would such queens reared here in this latitude (central Indiana) so early in the spring that the bees could not fly, be as good as those reared in a warmer climate, or later in the season here?

5. If placed in a super above a strong colony with drones confined therein by queen-excluder and division-board, can one expect pure-blood mating of the first rank?

6. What is the difference in size between the Root dovetailed

hives and those made by the G. B. Lewis Co.? Are they the same dimensions as the Danzenbaker or Langstroth?

7. Is the extreme shallow brood-nest a practical success, say to take two supers for early spring breeding filled with frames, then at harvest time introduce a queen-excluder on No. 1, and raise No. 2 above all the supers filled with sections?

8. Would the bees be likely to mix pollen along with the white clover and other first-class honey if the sections were thus placed between what had been their brood-nest?

9. Where is that man from Canada who said in the American Bee Journal that he could find either a virgin or laying queen in from 2½ to 4 minutes in any colony? He failed to tell us how to do it, and as yet I have failed to see the method explained. INDIANA.

ANSWERS.—1. Untested queens are understood to have mated and begun laying, but there is no certainty whether they have mated with a pure drone. Of course, if pure drones largely prevail in the neighborhood where the queens are reared, the chances are largely in favor of pure mating; but the purchaser takes the risk himself, whereas he does not run the same risk if he pays the extra price for a tested queen.

2. Standard queens are pure Italians like those that come from Italy, the workers having 3 yellow bands. A red clover queen, whether standard Italian or what-not, is one whose worker progeny work unusually well on red clover.

3. Queens can not be mated in the upper story of a hive either in spring or at any other time. They meet the drones high in the air. Some have succeeded in having them mate in very large tents, where they could fly much the same as in the open air; but there is probably no authentic account of queens ever having mated in an upper story.

4. No, it isn't worth while for you to fool away time trying it. The queens are likely to disappear, and even if they succeed in mating very early in the season, they are likely to turn out worthless.

5. No, not of the first rank nor of any other rank. As before explained, you can not have mating in such confinement.

6. Dovetailed hives made by different firms are all supposed to be of the same dimensions, having the regular Langstroth frame, 17⅝x 9⅛. The Danzenbaker is quite different in dimensions, having shallower frames.

7. Yes, quite a number have successfully used the Heddon hive, which is one of the shallowest, and T. F. Bingham has successfully used one still shallower. But I don't know that any one manipulates in the way you describe.

8. There is more danger of pollen in sections over a shallow brood-chamber, and if brood-combs are placed over sections there is danger that the sections will be darkened by the bees adding to the cappings of the sections bits of comb carried down from the old combs above. Whether this is always the case I don't know.

9. I don't now recall the item to which you refer, so I can't tell you anything about the whereabouts of the man. Sorry you didn't give page. But there are many who will find queens in 2½ to 4 minutes by merely lifting out and looking over the frames. Yet there will be exceptional cases in which a queen may successfully escape detection for a much longer time. One way to make sure of finding a queen is to run the bees through a queen-excluder; of course the queen will be sifted out.

Reports and Experiences

In Sunny (?) California.

I left 30 colonies in Iowa, but did not leave my interest in the bee-business. So my son and I have engaged for the season with parties that own nearly 1,000 colonies. They have been working about 12 men, making up hives, supers, foundation etc., wiring frames and putting in foundation, and at the same time caring for 4 apiaries, and also taking about 10 tons of orange honey of fine quality. They are rapidly completing arrangements to begin moving to the hills some 40 miles out (of which I may send an account later). I had just gotten queen-rearing well under way when I was taken sick, and confined to the house over a week. I am not able to resume work yet, but hope to be in a few days.

We are somewhat disappointed in sunny California. It is surely the "land of flowers," but not *all* sunshine.

They say this has been an unusual season, more continued cool and cold than common. We hived a number of swarms April 3, and then came home (about 1 mile), and played snowball, and there was snow till nearly noon the next day.

A few days have been *warm*, and they promise us plenty of that kind in July and August, more especially out in the hills.

T. S. HURLEY.

Los Angeles, Cal., May 14.

Experience with Bees.

Please do not stop the American Bee Journal. I can not do without it. Nearly every number is worth its yearly subscription price.

The spring here has been very backward, cold and chilly nearly every day. Last Saturday nearly one inch of snow fell, and Monday night it froze ½-inch ice on the water in my bee-watering trough.

Here is a little kink. If I had known it last fall it would have been worth quite a few dollars to me. It is as follows: If you use a 10-frame hive, like I do, and use an oilcloth on top of the frames, remove the oilcloth when you put the bees into the cellar. I had a few that had clustered on one side in the hive, and they just starved with lots of fine clover honey in the opposite side of the hive. The frames the bees died on were as dry as bark, not a drop of honey in them. If I had known that last fall, I would have been that much ahead.

I send a photograph of my apiary, which was taken early in the spring just as the hives were put out. Right among them you will find me examining the bees. If short of stores, in my left hand I have a comb with a little honey in for them, and in my right hand a 20th Century bee-smoker. The hives are all my own make, with standard Langstroth frames. The hive right in front of me and the second to the left are hives that I bought last fall, containing both straight and crooked combs which are to be transferred as soon as fruit-bloom commences.

As you look at the picture you will see 3 hives at the extreme right, which are my father's. Behind me is a sugar-maple which is an excellent place for the bees to settle on when they swarm, and I will tell you I have spent a good many happy hours in the shade of that maple tree, reading the "Old Reliable" and watching the little, industrious bees. About a rod back of that maple is a strawberry patch and a small fruit-garden with such fruit as gooseberries, raspberries, currants and blackberries. The woods in the distance are mostly basswood.

Well, perhaps I should say something about how I started with bees. About 2 years ago I got a bee-paper, and, of course, bought 1 colony in the fall. It wintered all right, and came out in fine condition. So I increased to 3 that summer by natural swarming. As I did not know much about bees then, I hived them in box-hives, and the result was lots of crooked combs. So I cellared 3 colonies the fall of 1904. I soon subscribed for 4 bee-papers, and got nearly all the standard books on bee-culture.

That winter was the time I gained my knowledge about bees. The following spring I set to work making standard Langstroth 10-frame hives, and put a starter in every frame. The hive-bottoms are removable, and are fastened on with a VanDeusen hive-clamp. The cover is 18 inches wide, made of three 6-inch boards, and covered with felt roofing, first painted with a kind of cement 2 coats, and then 2 coats of white house-paint, which I think makes a good cover.

And then that spring I increased to 12 colonies, and got 500 pounds of extracted honey (the bees built all the combs), and of course transferred those 3 colonies into standard hives. Hives Nos. 1 and 2 contain 3-banded Italians and the rest common black bees. I expect to Italianize them all this summer. That extracting super under hive No. 2 is for feeding purposes. Also, as you will see, there is a good-sized lake in the distant.

CHAS. O. BERGSTRAND.

Lykens, Wis., May 9.

APIARY OF CHAS. O. BERGSTRAND.

Prevention of Swarming.

Appreciation and thanks for what Mr. Philbrook says on page 383; but putting the queen below and the brood above with a queen-excluder between the two hives will not prevent swarming. In my locality, fully 95 percent of the colonies so treated will swarm; that is, of such colonies as would have swarmed if not treated in this way. That plan was described in print many years ago. I tried it in a large way and could not see that it had any effect whatever in preventing, or even checking, swarming, provided the colonies treated had already contracted the swarming fever. If they have not started cells, that plan will always check, and many times prevent, swarming. But it can not be depended upon. If a colony has started cells and they are destroyed at the time the brood is put above, the bees will at once construct new ones, and then swarm as soon, or before, the first one is sealed. That is the way the plan or method works here.

By the method I have discovered there has never been a failure in 3 years with hundreds of colonies, many of which had sealed cells at the time they were treated, and by my plan there is no cutting of cells, searching for queens, or jumping hives around. The frames are not removed. I have not been surprised that many do not believe what I say in regard to the matter, but it has been a great surprise that so many wonder what my object is and what I want.

Let me try to make my position in this matter clear: I have been permitted to make a discovery which, becoming known to the bee-keeping world, will revolutionize our pursuit, for it would most *surely greatly* increase the amount of honey produced, not only in this country, but all over the civilized world where bees are kept. This method will work in any part of the world that bees can, for its wonderful success is due to an instinct of bees that is infallible. This method would not only increase the amount of our product—because more honey with much less work can be produced when practising it compared with any other method now known, but also because it would greatly increase the number of bees kept all over the world. For thousands, who now keep but a few colonies because they can not give them the necessary attention during the swarming season, would, if they knew how easily it could be controlled, largely increase their number. Thousands of others, who now only make a side-issue of bee-keeping, would decide to devote their whole time to our pursuit, and become specialists, and what specialists there now are would be able to keep more bees with less work.

Now, in my opinion there is more than enough honey produced by methods now known to supply all the demand, and any method or means given to the bee-keeping world that will in time—and a very short time, too—double, perhaps more than treble, the amount of our product, might, and I think would, prove a curse instead of a benefit. Of course, if only a thousand or so knew about it, there is no question but that it would be a great benefit and advantage to them. And, of course, it is, and will be, a great benefit to me until it becomes known. I think, though, that in a few years the whole world will know about it, for others are getting close to it. Some have stumbled right over it without knowing it. But it may be many years before others discover it, and, anyway, if it is given to the world by others, the responsibility will not be mine.

I am looking forward with much interest to Mr. Philbrook's description of his queen-finding device. Perhaps it is the same as mine. If it is, I shall feel like taking off my hat to him for reading between the lines, as it were. By what he writes, I infer that he is an amateur with but a few years' experience, with a limited number of colonies.

Southern Minnesota. C. DAVENPORT.

[It seems to us Mr. Davenport makes a very queer argument, or gives a very poor excuse for not telling just how he prevents swarming. He might as well try to kill off all the bee-papers, and burn up all the bee-books, for by their existence they may cause more people to keep bees. Better try to spread foul brood so there will be fewer bee-keepers! Did you ever hear such selfish talk?

A certain Prof. Holden is going up and down the corn States, showing farmers how they can grow 60 bushels of corn per acre instead of 30. Of course, Mr. Davenport would kill off such men as Prof. Holden, as there might be too much corn produced! What's the use of letting so many farmers grow wheat, or try to increase the amount produced per acre? Better never to have known of the reaper, the self-binder and other improvements. Yes, let's go back to the sickle, the box-hive, and also do without comb foundation! Mr. Davenport is taking the wrong stand on this matter, and will see it some day.—EDITOR.]

A Rattler Among the Bee-Hives

Yesterday, while doing some work with the bees, I suddenly came upon a rattlesnake at close quarters. I had just finished looking over a hive and started for the next in the row when I caught sight of him coming out between 2 hives. He evidently saw me at the same time, and doubled back, and crawled under a hive. My hives were on stands raised a little from the ground by little stones, and there was room for him to crawl under. With a pair of pliers I fixed a stout hook to the end of a lath, and with a "big stick" close at hand commenced fishing for my visitor. I could get the hook over him, but but he managed to squirm away so that I could not pull him out. After working about half an hour I gave him up and concluded I would have to move the hive to get at him.

The bees were very much stirred up by the racket and poured out and covered me all over and followed the stick under the hive, and evidently were making it as hot for the snake as they were for me. for he would leave the corner where he was coiled up, and ran around as though it was a very uncomfortable place. My hives are 2-story and quite heavy, and I had to go to the honey-house to get a tool to pry them apart, and when I did get them off of the bottom-board and turned over—there was no snake there—I was about as much surprised as when I first saw him.

The apiary is at the foot of a hill and the sage-brush comes down to within a few feet of the hives, and I hunted the ground over thoroughly, but no snake could I find, and I had about concluded that I had lost him. Still, I was not satisfied, and didn't like the thought that I might come upon him at any time when he was coiled, and might strike me in an instant. So I went to probing under the other hives with the hook, and after feeling under 3 or 4, I had the pleasure of getting hold of him again; and worrying him a little more he crawled out at the opposite side, and I got in my work with the "big stick." He measured 3 feet and 4 inches, and had 9 rattles. I kill one or more every summer, and have killed larger ones, but thia was the first one I ever found among the bee-hives. F. C. WIGGINS.

San Diego, Calif., April 30.

CONVENTION NOTICES.

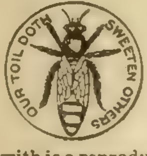
National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9 and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

Missouri.—The Saline County Bee-Keepers' Association will hold its midsummer convention on the lawns of the Honeysuckle Apiary, in Malta Bend, Mo., July 14, 1906.

E. G. GUTHREY, Vice-Pres.

Queen-Button for Bee-Folks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The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

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Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

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Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

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Untested	$ .75	$1.45	$2.85	$4.25
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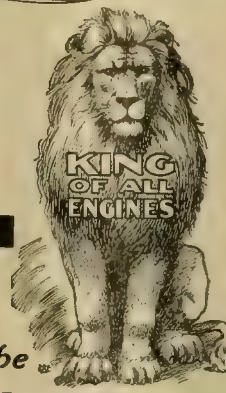

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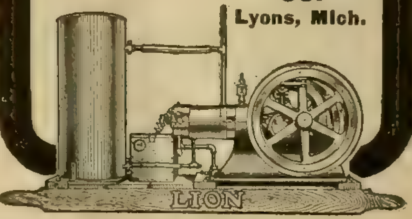

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We have a yard at Toledo with 100 colonies and over, which we use for queen-rearing only, besides several out-yards which we run for honey; also for extra bees. Brood and queens are mailed the same day order is received.

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Italians—Carniolans—Caucasians

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We call special attention to the superior qualities of our Red Clover Italians and Yellow Caucasians which are worthy the attention of progressive bee-keepers.

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Italians and Carniolans, Select, Untested, 75 cents; six, $4.00.
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Banat Queens for those who wish them.

Special prices for larger orders and breeding stock will be given on application. Write for Catalog.

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BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen.....	$ .65
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3 " " "	2.00
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Safe arrival guaranteed.

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Caucasian Bees are very gentle. They are easy to handle and are, therefore, suited to beginners, timid bee-keepers and to those who keep bees in town. If you want to try this race, or if you want to improve the stock of your Italian Bees, write to

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None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

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Choice Queens

Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans — Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906.

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26A13t FREDERICKSBURG, VA.

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ITALIAN AND RED CLOVER QUEENS

I guarantee safe arrival and perfect satisfaction. Untested, 60c; select untested, 75c, or $8 per dozen. Tested, $1 each, or $10 per doz.

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Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

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is covered by two Patents. With this wonderful invention the cost of making Sections may be reduced to $1.15 per 1000. If such Machine will interest you, write for further information. Do not write about it unless you mean business.

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Beeswax always wanted.

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And last from 5 to 21 years

Tin 4-in. Smoke Engine 3½-inch 8-inch 2½-inch 2-inch Wonder
$1.50. $1.10. $1.00. 90c. 65c—per mail.
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OTISVILLE, PA., Jan. 18, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

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☞ J. G. Goodner, of this State, writes me that "he prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

Queens of Moore's Strain of Italians

produce workers that fill the supers and are not inclined to swarm.

Stewart Smillie, Bluevale, Ont., Can., says:

> "They fill the supers and are not so much inclined to swarm as others. I have been buying queens for 15 years, and your stock was the only one that was any good to gather honey."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

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Satisfaction Guaranteed.
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Send for same.

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For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...
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Honey and Beeswax

CHICAGO, June 22.—The demand for honey, both comb and extracted, is slow. Fancy comb brings 15c per pound; No. 1, 14c; off grades, 10@12c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c. R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, July 6.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, June 20.—There is no new honey arriving in this market as yet, and so few lots of old honey that we cannot establish any price. Some little lots of Southern extracted honey have arrived in barrels. We quote: New Southern extracted, light amber, 6½c; amber, 6c. Beeswax selling freely at 29c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 6½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c.
HILDRETH & SEGELKEN.

CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, July 5.—The honey market here is almost bare and there is very little new stock coming to market. On account of the poor wintering of the bees, very little honey has been gathered. The market for the best white honey in 24-section cases is $3.25@$3.40 per case; amber and other grades are 25@50c per case less. There is no new extracted honey on the market, but a little old is selling at 5½@6c, but scarcely any demand. We look for a good demand later. C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c. Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

Wanted

To sell lot of 300 empty 60-lb. capacity Honey-Cans. All in one lot, or less quantities. Cans are in first-class condition.

We are also in the market for Fancy Comb and Extracted Honey. Correspondence solicited

Michigan White Clover Honey Co.
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150 E. Jefferson Street, Louisville, Ky.
643 Broadway S.E., Cleveland, Ohio.
21A13t Please mention the Bee Journal

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

Yellow Sweet Clover Seed
1 lb., postpaid, 30c; 5 lbs., by express, at purchaser's expense, $1.00; 100-lb. lots, 15c per lb. A. L. AMOS,
26A4t Rt. 1. COMSTOCK, NEBR.

FOR SALE
EXTRACTED HONEY

Write for prices. State quantity and kind wanted. Samples free.

BEESWAX—Will pay Spot Cash and full market value all the year. Write us when you have any to dispose of.

HILDRETH & SEGELKEN
265 & 267 Greenwich Street, NEW YORK, N.Y.
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WANTED

To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping-cases; also extracted honey. We are cash buyers, and remit on receipt of goods.

THE FRED W. MUTH CO.
27Atf 51 Walnut St., CINCINNATI, OHIO.

WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.
M. H. HUNT & SON,
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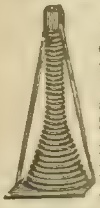

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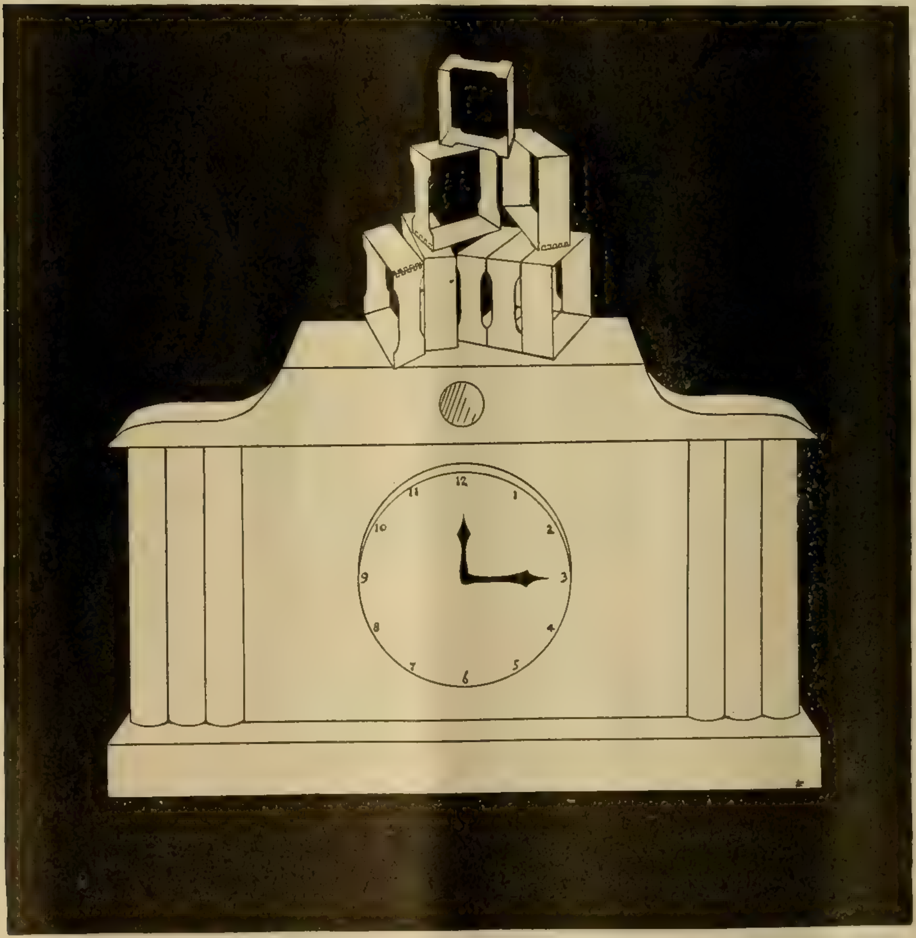

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46th Year JULY 19, 1906 Number 29

AMERICAN BEE JOURNAL

G. H. JOHNSON AND SWARM OF BEES.

APIARY OF G. H. JOHNSON, OF WOODSTOCK, CONN.
(See page 614)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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☞ J. G. Goodner, of this State, writes me that "he prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

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The illustration shows one of the A. K. Ferris hives under process of manipulation. Every bee-keeper will be interested in reading about these hives arranged according to the Ferris' system for the Prevention of Swarming for Comb Honey Production.

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GERMAN BEE-BRUSH

Some months ago Mr. R. F. Holtermann called our attention to a bee-brush which he received from Germany, made of genuine bristle or horsehair. He had used one a whole season, washing it out often, and it appeared to be as good at the end of the season as at the beginning. He considered it so far ahead of anything he had ever seen or used that he wanted no other. We concluded if it was so good for him it must be equally good for others. We are now provided with a stock which we offer at 25 cents each; by mail, 30 cents. The bristles are black, and about 2 inches long, extending 8 inches on the handle. Made of white hair it would cost 5 cents more.

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AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

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GEORGE W. YORK, Editor — CHICAGO, ILL., JULY 19, 1906 — Vol. XLVI—No. 29

An Independent Bee-Paper

The American Bee Journal is absolutely an independent publication, and neither is it nor its editor connected in any way with any bee-supply business whatsoever. It stands entirely upon its merits as an educative force in the field of bee-keeping, and as a medium for legitimate advertisers in Apicultural or other lines. It is the oldest, and only weekly, journal of its kind in America. Its publishers believe that it deserves to be in the hands of every would-be progressive, successful bee-keeper in the land. It is in its 46th year, and to-day is acknowledged to be better in every way than at any time during its long and honorable history.

Editorial Notes and Comments

When Swarms Cluster Together

Sometimes the bee-keeper is thrown into despair by the issuing of several swarms at once, all uniting in one huge cluster. C. W. Dayton gives in Gleanings an original plan for managing such cases. He says he *wants the swarms to unite, as it makes the work easier*. The queens will, be balled, and that makes it easy to pick out the queens.

The cluster is put into a screened cage or hive for 8 or 10 hours, the queens being removed, and he thinks these hours of uneasiness and queenlessness free them of the swarming mania. Then they are allowed to return to their own hives, not in a body, but singly as queenless bees, each seeking individually its own hive. He says:

> With more than one swarm in a cluster it causes matters to be very unsettled. Then when bees from several swarms are caged together it is all the more confusing in their swarming. The more confusion the better. It abstracts the bees from their own intentions. When first caged they will buzz and bump against the screen for awhile, but finally settle in a compact, quiet cluster, and the queens will remain quiet. Then the bees can be poured out of the box on a smooth space of ground, and the queens picked up and caged in a few moments. When all the queens are secured, set the box down on the ground, open side down, and in an hour or so the bees will cluster in it again. Then put the screen on to confine them until it is time to let them go home, which should be near night. Wait until the bees find out that they have no queens, then they will *want to get out* and return to *their own* hive, thinking that their own queen did not issue with them. Open the screen only partially so that they can escape slowly. Do not throw them out in a pile on the ground. They are now dissatisfied with the strange cluster they are about to leave, and they will not go in with another cluster of strange bees unless it is by the confusion of a mass of bees together. They will not cluster "on other hives."

For many the plan will not be feasible, because it will not be easy to tell to which of the different colonies the different queens belong. But to Mr. Dayton this is no objection, for he wants the old queens removed, and later on a young queen or a ripe cell to be given.

Yet even to those who have clipped queens the plan may be of much value at times when two or more swarms without any queen unite. Left to themselves they are likely to make bad work by going in a cluster to the wrong hive. Imprisoned for several hours, and then allowed to escape as queenless bees, a few at a time, they might be expected to return, each bee to its own hive.

Bees and Bee-Keeping in Japan.

Mr. T. B. Blow, a large supply dealer at Welwyn, England, made a tour of this country some years ago, visiting a number of bee-keepers. A little later he married a Japanese lady, and settled in Japan. Although having become a bee-keeper in Japan, it seems he had to send to England for honey for his own table. The following extracts from a letter in the British Bee Journal will be of interest to those who desire to know more about Japan:

> No sooner did I settle down in this, my adopted country, than the bee-fever was soon on me, and I determined again to keep bees. They are not plentiful in Japan (despite the statistics of the Agricultural Department schedule, the supposed number of colonies which is, I should think, greatly over-estimated.) Honey is not used in Japan for food. but as medicine. The bees are kept in square boxes of about one cubic foot contents, and cubical in shape. There is a door at back, and the comb honey is cut out whenever available, and is crushed (along with the brood, often,) and strained, and in this state sold. Very little wax is obtained, for though wax is used extensively in this country for various purposes, it is vegetable wax, mainly.

Having got a swarm of native bees into a civilized hive with proper appurtenances, he says:

> And now the troubles began. The Japanese bees are smaller than the European, and they very reluctantly took to the comb foundation; undoubtedly the cells were too large for them to deal with well. Seeing the multitudes of flowers around, one would have expected an amazing yield of honey; for instance, in April and May, one may travel for hundreds of miles and see one blaze of yellow from the mustard and rape flowers (the oil-producing plant,) but beyond this there is nothing. Later on the whole country is under rice, which, of course, is useless. But the bees themselves are lazy—there is some food to be got almost all the year round (for we have no cold, wet winter like that of England,) and the bees certainly do not store much honey, and so, after two years' experience, I conclude that it is cheaper to buy honey than to produce it, and in quality our English honey is vastly superior; so though my bees are still alive and well, I allow them the use of all they gather, or nearly all.

Correct Nomenclature in Bee-Keeping

Bee-keepers average up well in intelligence, and so it is nothing strange that when a word has come into use with a wrong meaning, there should be protest. Prof. Cook has protested vigorously against calling the larva of the bee-moth a "wax-worm," insisting that the term should never be used. Prof. Cook is a good bee-keeper, yet he is a scientist—an entomologist—before he is a bee-keeper, and so, no doubt, more jealous as to correct names of bugs, worms, and such things than the mere bee-keeper. But if he will suggest something correct, and just as short as "wax-worm," it is very likely that the correct term will grow into general use. The layman, however, who is supported by the dictionary in his accustomed use of the word "worm," will think it is asking a good deal of him to insist that instead of saying "I dug 100 worms out of some wormy combs," he shall say, "I dug 100 larvæ of the bee-moth out of some combs that were infested with the larvæ of the bee-moth."

The case of the word "hybrid" seems not so difficult. Something has been said about it in previous numbers, and here is something more:

> Mr. Editor:—That "Southern Beedom" man has gotten me all tangled up as to what he means, page 448, where he proclaims himself "in favor of using the terms 'cross' and 'hybrid' in the right sense, as per R. F. Holtermann, page 341." Now what does he mean as the right sense in which to use the word "hybrid?" If I understand correctly what Mr. Holtermann says, he wouldn't use the word "hybrid" at all. But Mr. Scholl, at the top of page 448, speaks of "some suitable *cross*, or, better still, a *hybrid*." Evidently he means by "hybrid" something different from a "cross;" now what does he mean?
>
> It seems unfortunate that the word "hybrid" was ever used as applying to bees, but it is not impossible yet to use in its place the correct word—"cross"—unless we take the ground that when a word has been wrongly used for some time there is no possibility of using the right word, as the editor of Gleanings does, when he says, "The word 'shook,' as an adjective derived from a verb describing a certain kind of artificial swarm, has become so thoroughly engrafted into the nomenclature of bee-keepers, that it seems utterly impossible to choke it out of literature." That's too weak a notion for so good a man to entertain, and he ought to have it "shook" out of him.
>
> C. C. Miller.

Is there any good reason why, when speaking of bees, the word "cross" may not in all cases be used in preference to "hybrid?"

Miscellaneous News-Items

Honey Prospects for 1906.—The following is sent out by General Manager France, showing the honey prospects for 1906 up to June 25, in a large portion of the United States:

> Southern California—Fair crop; better farther north in State.
> Texas—Three crops; first two, failure; last, good.
> Colorado—Light crop; some lost their bees heavily in winter.
> Mississippi Valley—Not half crop.
> Michigan, Ohio and Indiana—Half crop.
> Eastern States—Mostly good reports.
> 1905 crop about all sold; markets bare; demand good.

It would seem from the foregoing that there will not be a large honey crop this year. This taken with the fact that the 1905 crop is pretty well cleaned up, should somewhat stiffen up prices on honey. At any rate, it will be well to ask a fair price, and endeavor to hold to it. With a proper distribution there evidently will not be enough honey to go around this year.

Bryan as a Bee-Keeper.—Perhaps the best known American throughout the world to-day is Wm. Jennings Bryan—at least he holds the boards with President Roosevelt. Mr. Bryan is a representative American, and this is not written for any political reasons. It is quite well known that this worthy gentleman has been before the country for the high office of President on two occasions, and was beaten perhaps on account of his or his party's financial views. He is known to be a lover of rural life, and is looked upon, aside from his professional life, as a typical farmer. He has quite a lot of cattle, etc. He likes to do the work of a farmer, and for this the American people have come to like him all the better. Now, it comes to pass that this statesman-farmer is something of a bee-keeper—yes, a real, live bee-keeper—one of the kind that is taxed for keeping bees, and who pays the tax, too.

Recently, in making up the returns on his property, the assessor of his district found that Wm. Jennings Bryan had some bees—the telegram did not state whether the bees found the assessor first and applied their business ends upon him, but at any rate the assessor put those bees down as valued at $5. So Mr. Bryan has real honey-bees. And it may come to pass that the bees in his presidential bonnet may swarm and land him in the White House, and in such an event there is no doubt the bee-keepers throughout the land will not be ashamed of their bee-keeping president.

The foregoing information was sent to us by W. A. Pryal, of California. In case Mr. Bryan should ever become President, and take his bees to Washington, we have no doubt Mr. Pryal could be persuaded to be Secretary of Apiculture, although Dr. Phillips might be entitled to first claim to the position, especially if the civil service rules should obtain. However, there will probably be no competition for that position very soon.

But why have we not had a report of Bee-Keeper Bryan's average yield per colony? and is he running for comb or extracted honey as well as running for President?

Don't Lose Your Temper.—This is the heading of the following item signed by The Star Monthly:

> Uncontrollable temper never spelt the road to success of any kind. A quick temper is a defect in a man. A man who always loses his temper is like a man on crutches in a foot-race.
>
> Just figure it out. If you lose your temper at something a friend says or does, you are sorry for it afterward, for you have wounded your friend, who wished you no harm. This makes you feel badly. If, on the other hand, you lose your temper as the result of nagging, you have done just what the nagger wanted you to do. There may be occasions for righteous anger in life, but never for the loss of temper. Sense and dignity are always lost with temper.
>
> Your temper is like a horse, each time you let it run away from you, the more unmanageable it becomes. Don't lose control. If not for others' sake, at least, for your own sake, keep your temper.—The Star Monthly.

Good advice is more easily given than taken. The Star Monthly—a splendid publication for boys—certainly offers excellent advice, which, if followed, would be a grand thing for all its readers. We have quoted several good things from this source during the past few months, which, though they may not have had a bearing on bee-*keeping*, still they may be a help to all of us bee-*keepers*, whether having few colonies or hundreds.

Please Give Page of Reference.—In communications intended for publication, reference is often made to something in a previous number, possibly in corroboration, possibly in refutation of what has been said. For a full understanding of the matter, it is generally necessary to know what was previously said, and in what connection it was said. To save quoting largely for this purpose, it is generally better that the reader should turn to the article referred to—a thing quickly and easily done if he knows just where to look for it, but often a time-consuming affair otherwise. A model writer, in this respect, is our genial friend, E. E. Hasty. Never does he refer to anything previously published without giving the exact page. If all our correspondents will kindly make a note of it, and give the page whenever referring to anything previously said in the American Bee Journal, it will add to the general comfort.

The Front Page Pictures were sent us by George H. Johnson, of East Woodstock, Conn. Accompanying them was the following, under date of June 21st:

> I have been very successful with bees, having had them 6 years. Last season was a very profitable one. I have also been fortunate in not losing many colonies until the past winter, which proved not as good in that respect.
>
> I have one swarm that came out May 15th, which has one super almost full of honey. I use cases and put 6 sections in each, or 24 sections in the super. I can see what the bees are doing by lifting the super off.
>
> I am much interested in bees, and spend many a pleasant hour studying them.
>
> George H. Johnson.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued recently. The complete new 344-page book, bound in cloth, is sent postpaid for $1.00; the Appendix alone for 10 cents. Or, the book and the American Bee Journal a year—both for $1.80; the Appendix and the American Bee Journal a year in advance, $1.00. Send all orders to the American Bee Journal office.

Contributed Articles

Emptying T-Supers of Honey—Wiring and Splinting Frames, Etc.

BY DR. C. C. MILLER.

I AM glad to reply to your questions on page 465, Mr. Scholl. Your idea that sections were got out of a T-super by being put on a bearing-board and the super then pushed down is the same as the idea I first had, and that's just the way it was done a good many years ago. You seem to have some trouble in deciding whether I now push the sections down or pull the super up. Well, I do both. First the sections are pushed down the distance of ¼ inch—the super being upside down—and then the super is pulled up off the sections, the push-board holding them down so they do not come up with the super.

You want to know if it isn't a greater strain on the thumb and fingers and why it's done in just such a way. I suppose you mean as compared with the way first mentioned. I don't know that I ever thought of it before, for I've often worked at it all day long without feeling any special strain on the thumb and fingers, but now that you've called attention to it, there must be greater exertion of the thumb and fingers by the present than by the old way, but on the whole less labor is required, and less time, to empty 100 supers by the new than by the old way.

An important difference is that by the old way the sections were left standing right side up, and by the new way they are upside down. And they must be upside down to be easily taken apart, for it's an easy thing to pick off the T-tins and then pull the sections apart when they're upside down.

You also want my judgment as to using foundation in brood-frames, 10 sheets to the pound, two wires on each side, assisted by vertical splints. I don't—that is to say, it isn't easy to say how a thing would be that one has never tried; but I'll tell you how it looks to me. More care would have to be used with such thin foundation lest the splints should cut it in two, especially if a little too much pressure should be used. The wire would hinder the splints just a little from being pushed down in the foundation, but perhaps not seriously.

But if the splints work all right with such thin foundation, the combination ought to be a good deal better than the wires alone. Also, I think the splints alone would be better than the wires and splints. That is, if the same time and expense that the wires demand is used for extra splints the work will be more satisfactory. I hope you will experiment and tell us about it.

There are two things for you to find out: One is to find whether you can use splints on thin foundation without cutting the foundation in two. If you can manage that part all right, then you must find out how many splints must be used in a frame. The thinner the foundation, the closer must the splints be to prevent sagging. With such light foundation it might need splints about 2 inches apart. Where much of such work is done, it is possible some plan might be devised to do the work faster than to fasten in each splint one at a time.

RETENTION OF HEAT IN THE BROOD-NEST

On page 530, Mr. Doolittle, referring to my experiments of May 7, as given on page 441, asks whether the sun was shining on the hive at the time of the experiments, evidently thinking that would account for the greater heat in the hive as compared with the thermometer in the shade, for of course he is right in thinking that the thermometer outside was in the shade. As nearly as I now remember, on that day the sun didn't shine at all throughout the whole day, a thing one would naturally guess from the fact stated on page 441 that throughout the whole day it was never warmer than 58 degrees.

Neither, I think, were the bees working busily at the time of the experiments, as Mr Doolittle thinks, at least not throughout the whole day, but only in the warmer part of the day; for it will be noted that I said it was a cool day, but "as the day advanced bees worked busily."

So I think the increased temperature over the hive can hardly be accounted for by the sun shining on the hive, neither entirely by the breaking of the crust from bees going afield. But even supposing the difference should be accounted for entirely by the fact of increased heat from the bees breaking the crust when going afield does that not conflict severely with the view of Mr. Doolittle as given on page 364? He there says: "The heat from the cluster is not allowed to pass up into an upper hive, at any time when that heat is needed for the brood within the cluster of bees." We have it from so good an authority as G. M. Doolittle that never less than 92 degrees is needed for the brood within the cluster, and according to that no heat should be allowed to pass up when the outside temperature is below 92. May 7 it was 34 degrees lower than that, the warmest time in the day. Surely one would say of such a time that it is a "time when that heat is needed for the brood."

Very likely he is right to this extent, that at night there will be less difference than in the day, for there is then less activity, and so less heat produced. It will be noticed, too, that May 7, after 5 p. m., when I think the bees had ceased flying, the difference was only 9 degrees, which was less than at any time when the bees were flying. I'll try it to night, as he says night is the right time.

And I wish, too, that Mr. Doolittle would experiment, himself, with regard to this whole business, and tell us the results. I shall be glad, however, to hear that his bees are doing differently from mine, and keeping him on the jump gathering the crop, so that he has no time for experiments.

NEXT MORNING: I arranged an upper story with a thermometer in the afternoon, so that the bees would have abundant time to settle down quietly, and at 9 p. m. I found it was 64 in the upper story and 56 outside—a difference of 8 degrees or very nearly the same as when the bees stopped flying May 7.

I should not feel sorry, Mr Doolittle, if you could still prove that no heat is lost from the cluster, for it would be a convenience to know that cracks and loose covers can do no harm; but I'm afraid that the only explanation of your mystery is that the bees stir up the chunks and make a better fire to make up for the heat that escapes when it gets colder.

Marengo, Ill.

Something About Comb-Building

BY G. M. DOOLITTLE.

AS I am having more letters than usual asking why swarms, hived in an empty hive, excepting frames having starters in them of worker foundation, build so much drone-comb, I thought I could do no better than to write a few words for the American Bee Journal regarding how the building of so much drone-comb might be avoided.

Nature has ordained that the queen shall cease her prolific laying just before a swarm from any colony is to issue, and for two reasons, the first of which is, that the queen can fly, for if taken from the colony when no such preparation has been made she cannot fly at all—she is so heavy with eggs. The second reason is, that the queen need not be damaged by an over-accumulation of eggs before there is time for the bees to construct comb in the new home for her to deposit her eggs in; thus we find that all good queens do not get fully prolific again after the swarm goes forth until about a week has elapsed after the swarm has arrived at its new home. During this week, comb has been built very rapidly, especially if the swarm is a large one and nectar is coming in rapidly from the fields, while the queen has not been able to keep up with the workers, the result of which is that the bees commence to build store-comb, which is always of the drone-size of cells.

This comb is mainly filled with honey the first season, although most prime swarms will rear more or less drones in these drone-combs, unless the honey-flow is profuse enough to crowd them out.

But the main trouble comes in having this store-comb filled with drones after the bees have consumed the honey out of it the next winter and spring. I have often seen hives in neighboring apiaries nearly half filled with drone-comb, where good laying queens went out and were hived with swarms. Why I say "good laying queens," is because some seem to think that no drone-comb is built under any circumstances by a swarm, unless the queen is old or beginning to fail.

The colonies above referred to were all hived in large hives with no surplus arrangements put on until a week after hiving, so it was necessary that the bees do all of their work in the body of the hive.

In the above I have given why swarms build drone-comb, for the majority of bee-keepers who do not use full sheets of foundation for their swarms. Now, how is such a state of affairs to be avoided by the one who wishes to hive his swarms on startered frames?

The way I manage is to give the colonies which are to build comb, a brood-chamber of only about one-half the size of the one from which the swarm came, this smaller size being made by contracting the chamber of the new hive to the size I wish, by means of dummies or division-boards, and also giving them one of the supers of sections at time of hiving. Or, to be more exact, the swarm is hived in the full-sized hive and left for 24 hours, when the frames they have not commenced work upon are taken away, dummies substituted, and the surplus arrangement of sections put on. In this way the swarm seems to work to better advantage, and is not liable to desert its hive, as is sometimes the case where the contracted chamber is given them on the start.

After having their home established by the building of comb, they will stand almost any kind of treatment thereafter without deserting. The super put on should contain a few sections having partly built comb in them left over from the previous season, while it is well to have the others filled with full sheets of the very thin foundation for section honey. This gives the bees plenty of room above to store honey, thus not crowding them in the brood-chamber, so that only comb of the worker size is built below, and that only so fast as the prolificness of the queen demands it. As her ability for laying increases, more comb is built, so that at the end of the season we have this contracted brood-chamber filled with nice worker-comb and lots of section honey.

By the above plan I secure three important items—lots of section honey, no drone-comb, and a hive full of nice, straight worker-comb, the latter costing less, according to my estimation, than it would to buy the foundation, say nothing about the labor and fuss of wiring the frames and fitting the foundation into them.

I hope those who are troubled with too much drone-comb in the body of the hive will try this plan, on a few colonies at least, for if it works as well with others as it does for me, it will be quite a saving to them both in vexation and in not rearing a host of useless drones to eat the honey which the industrious little workers gather.

Of course, all of the above is applicable only to those swarms which have laying queens with them, and does not apply at all to after-swarms or those having virgin queens. With such colonies there seems to be no disposition to build drone-comb, unless the swarm should be so large that comb is built far in excess of what the queen can fill with eggs, in which case a little drone-comb is sometimes built. Neither will drone-comb be built in the old colony after their young queen becomes fertile, because when an old colony gets such a queen, instinct teaches them that she will meet all their requirements of a mother-bee for the rest of that year, while drones are necessary only when a change of mothers is contemplated by the bees. Hence no eggs are deposited in drone-comb, even where such is already built in the hive, and much less is such comb built. Taking advantage of this fact I often manage to get one or two nice, perfect worker-combs built for future use, while the bees of these colonies are at work vigorously in the sections, by taking one or two full combs out from the center of the brood of colonies having such queens, and inserting empty frames with starters of worker-comb foundation in their places. These frames are filled, apparently, without the cost of any section honey, while it seems to give great energy to the colony so building comb. The extra combs I secure in this way are used after the harvest of white honey is over, to fill out the hives which have been contracted for the prime swarms, so that they may have room in the brood-chamber to store sufficient honey for winter from the dark or buckwheat flow, which comes later on. In this way the white honey, which brings the best price, is mostly taken in the sections, while the bees winter on the dark honey, which is often almost a drug on the market.

Borodino, N. Y.

Gleaned from Foreign Exchanges

BY F. GREINER.

GERMANY—The Flower's Nectar.

Dr. O. Follenius says in "Die Biene," a German paper, that nectar contains anywhere from 7 to 40 percent sugar, and that the honey-bee can secure only a part of the nectar contained in each blossom. That which is necessary for the full development of the fruit can not be removed. According to the recollection of the writer of this it has not been claimed before that any of the nectar was necessary and appropriated for this development of the fruit. On the contrary, it has been held that the nectar was placed in the blossoms for the sole purpose of attracting insects.

Black Honey of the Pine Woods.

Large quantities of honey are often secured from pine woods in certain parts of Germany. This honey is nearly black in color, still it finds many admirers, and must therefore be of much better quality than the honey-dew gathered here at times. The Emmendingen Bee-Keepers' Society furnishes all the honey for the Grand duke's table (in Karlsruhe), and it is specified that this honey must be the black honey of the pine woods.—Bztg. for Schlesw.-Holstein.

AUSTRIA.

Feeding Bees A Baked Hen.

The old-time practice of feeding bees with a baked hen, as has been reported occasionally, has undoubtedly furnished food for smiles and ridicule. Jno. Sponer ventures and explantation of this singular practice in the *Deut. Imker* for March. He says the occurence of this came at a time when dishes suitable for feeding were extremely rare, and when a steamed hen, still hot, was shoved under a colony which hesitated to take advantage of a good, warm day, to have a cleansing flight. The warm air rising from the hot meat did not fail to bring the bees to their senses.

The tender meat of the fowl also furnished water to the bees, and probably saved many a one from finding death at the brook. It was a convenient way to "water" the bees when hens were cheap and dishes scarce. These were advantages which did not fail to make their showing in the development of colonies so treated. That mice came later and cleaned away the drier portions of the hen's carcass escaped the observation of these bee-keepers of times gone by. But, then, the hen had served its purpose.

AUSTRALIA.

Australian Honey in Britain.

We are told by the Australian bee-keepers that their honey is of superior quality and most excellent flavor, but others are of different opinions. An effort has been made to induce the Britons to use the Australian product, but without success so far. The German people make a similar claim as to the superiority of *their* honey. It is doubtful, however, that the claim is well-founded, although honey, which I have sent to friends in Germany not interested in bee-culture, was pronounced by them inferior to the German product.

Honey Season Unfavorable in Australia.

The past honey season in Australia was unfavorable. August is the spring month, and bees were in good shape, with plenty of brood, but a long-continued cold-spell depopulated the hives to such an extent that from 3 to 4 colonies had to be united to make one good one. Very little honey could be harvested except during the fall honey-flow, in December.—*Austr. Bee Bulletin.*

Our
Bee-Keeping
Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

An Old Bee-Poem

The following was kindly sent in by Mr. Edwin Bevins, of Leon, Iowa, who says he "copied it for the American Bee Journal to while away an idle hour:"

The Bee and the Flowers

By Mary Lundie Duncan, born at Kelso, Scotland, 1814, died 1840.

MOTHER.

Ah! do not, do not touch that bee;
Stand still, its busy course to see,
But take your hand away;
For, though 'tis neither large nor strong,
It has a sting both sharp and long,
And soon could spoil your play.

You need not fear; it loves, like you,
The flowers of varied form and hue.
They yield it honied spoil;
It only stings the thoughtless train,
Who seek its life, or give it pain,
Or stop its happy toil.

Or idle drones which labor not,
But eat the honey it has sought
To store the crowded hive;
Or insects that would enter there,
To steal the food it brings with care
To keep its race alive.

In search of flowers this food that yield,
It flies abroad through hill and field
With pleasant, humming sound;
It rests on many a blossom bright,
That opens, far from human sight,
To deck the lonely ground.

Flowers were not made for man alone,
But freely o'er the earth are strewn,
To bless the creatures, too;
And many an insect nation dwells
Among fair fields and mossy cells,
That we shall never view.

CHILD.

I did not know the bee could sting;
I see it fly on rapid wing
Among the garden bowers;
And now it 'lights upon a rose,
And now to a jasmine branch it goes—
Say, *will it sting the flowers?*

It settles where the woodbine sweet
Twines round the tree—it plants its feet—
How firm and fast they cling!
Oh, how I love the pretty flowers,
That bloom through all the sunny hours—
Pray, do not let it sting.

◆

The Poppy as a Pollen Yielder

So Brother Hasty thinks I left Hamlet out of my Hamlet by omitting the poppy from the list of nectar-yielding flowers for a floral display, page 525. The omission was chiefly due to ignorance.

We have never had enough poppies to have a chance to learn what the bees did think of them. This peculiarity, however, has been noticed (I wonder if Brother Hasty has noticed it?) that popp -pollen is black. At present we have just one lone poppy—the Poppy of Oz—but the poor, sickly thing doesn't look at present as if it could stand bees or anything else.

Thanks, Brother Hasty for calling attention to the poppy, especially as some of the later kinds are of marvelous beauty. But pray, why did you leave us in suspense as to your "prime favorite among the flowers, even if it does not draw bees at all?" Please tell us what it is.

◆

Honey for Brain-Work

A well-known author acting on the advice of his doctor, uses honey largely, and has amply proved by experience that in doing heavy brain work there is nothing better for the system than honey.—British Bee-Journal.

◆

How to Manage an Apiary Successfully

Here's a sister of an inquiring turn of mind. It's Mrs. F. Wilbur Frey, of Michigan, who says in the Bee-Keepers' Review:

> Here are a few of the things I want to know:
>
> 1st. How to keep a large apiary together until the honey is completed.
>
> 2d. The easiest way to get rid of old queens, and have all young queens in the bee-yard in the fall, and, at the same time, keep the colonies all strong, and ready for all harvests.
>
> 3d. How to keep bees from *wanting* to swarm.
>
> 4th. How to get all nice, clean honey without travel-stains.

It is to be hoped that she may be successful in getting satisfactory answers to her questions, and may then give the rest of us the benefit of such answers. Especially is it desirable to get answer to her 3d question, for that goes to the root of matters; and when we find the cause—rather *if* we find the cause—we may then seek with some intelligence for the remedy.

As to the 4th question, we already have an answer—at least for this locality. It is to take off each super before the bees begin to darken the central sections; for the darkening always begins centrally. That often obliges taking off a super before the corner sections are sealed; in which case the unfinished sections from several supers are massed together in one super and returned to the bees to be finished.

Southern
Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Three Queens in One Brood-Chamber

In one of my out-apiaries I had 2 hives near each other that had old, failing queens. As it was in early spring I had no young queens to replace them, so I decided to unite them by putting 1 hive on top of the other, and letting the bees settle it so far as the queens were concerned—as they were both good Italians. In about 2 weeks I was back in the yard and found this united colony with capped queen-cells, but destroyed all but one of the best cells for fear of swarming. On a third visit I found this colony unusually strong, and as I decided it might swarm anyway, even with this young laying queen (as I was sure she was mated and laying by this time), I concluded to hunt her out and clip her wing. I soon found one of the *old clipped queens* hobbling about over the combs depositing eggs. I set the comb on the outside to look further for the young one, and to my surprise found the second old clipped queen; and on further looking I found a *third queen* that was mated and laying, which was the young one. So I had *three laying* *queens in a hive at one time.* But soon one of the old queens disappeared, and on my last visit the other old one was also gone.

SOUTHERN DEPARTMENTS IN NORTHERN BEE-PAPERS.

We are pleased to note that almost all the leading bee-papers are conducting a Southern Department now. This is as it should be, for we have some good bee-keepers here, the interest is growing in apiculture, and there is as much difference in bee-keeping in the North and the South as there is in the seasons and climates. And the very things that are of the most interest to Northern bee-keepers are of little interest to us here; besides, our honey-plants are all different.

Rescue, Texas. L. B. Smith.

A New Race of Bees (?)

Near one of our out-yards belonging to Prof. R. F. Smith and myself there was found in the cotton-field of the plantation a large "bees'-nest," as shown in the picture. This was built, evidently, by one of the swarms from our apiary, as we lost several fine swarms there last spring.

The "nest" was taken to a place in one of the department museums, where it attracted much attention. One of the cadets "sent in" the following "special telegraph" concerning the "discovery," to The Battalion, published at A. & M. College of Texas:

No More Boll-Weevils

REMARKABE AND IMPORTANT DISCOVERY ON A BRAZOS "BOTTOM" PLANTATION.

We take pleasure in reprinting the following from the Texas Daily Cotton Patch:

A POSSIBLE SOLUTION OF THE BOLL-WEEVIL PROBLEM.

Our Brazos "Bottom" special correspondent telegraphs: A tremendous sensation has been caused among the farmers of this vicinity by the discovery of several bee-nests on the large cotton plantation of Messrs. Carson & Smith. Not that bees are a novelty here, but the average farmer is apt to suspect that his credulity is being imposed upon, when told the bees have commenced to build their nests on cotton-staks in the middle of a thousand-acre field. Yet, seeing is believing.

THE NEST OF A NEW RACE OF BEES—"WEEVILLUM BEELZIBUVIUS." C. & S.

Prof. Carson, when seen by your correspondent, was filled with enthusiasm by what he regards as the most important event that has ever happened in the South, from an economic standpoint. According to investigation which he and his junior partner, Prof. Smith, have been making, they have elicited the fact that these bees are of a very peculiar ancestry—apparently a mongrel cross between the ordinary wild bee, a new strain of Italian bees, imported by some "Dago" farmers in the neighborhood, and the common red ant. It seems that ever since the cotton-picking season ended the "niggers" living on the plantation have been well supplied with honey from the combs constructed on the cotton-stalks. Prof. Smith exhibited one of the nests in the main building of the A. & M. College, which had had 20 pounds of honey extracted from the comb. It is probable that this estimate, however, is slightly incorrect.

The question is, How was all this honey made during the winter, the combs being constantly renewed as fast as the darkies took them away? "Very simple," said Mr. Carson. "This strange race of bees has been feeding on the boll-weevil, which were hibernating, and there ain't nary a one left. We expect to make a bale and a half of cotton to the acre next year."

The U. S. Department of Agriculture has given orders to stop the importation of Gautemalan ants, as they believe that the new variety of insect, known already as the *Weevillum Beelzibuvius,* of Carson & Smith, is the only enemy that can successfully exterminate the boll-weevil.

Prof. Smith, whose deductive faculties as a professor of mathematics are, naturally, of a very high order, maintains that there is a powerful affinity between these peculiar insects and the superior cotton plants grown on the Carson & Smith estate. This contention seems a very plausible one, as we never heard of them previously.

Many colonies of the *Weevillum Beelzibuvius* are now in captivity, and orders are already coming in from all parts of the State, for specimens. Messrs. Carson & Smith, however, wish me to say that these insects will build their nests only on cotton-stalks of their own breeding. With every bushel of seed at $10 they will send the nucleus of a colony of these predatory insects, which will supply honey all through the winter and destroy the boll-weevil on the plantation at the same time.

Canadian Beedom

Conducted by **MORLEY PETTIT**, Villa Nova, Ont.

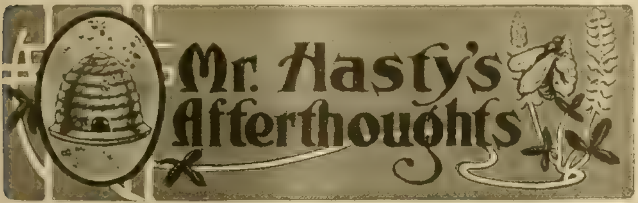
Carbolic Acid in Bee-Keeping

With the increased interest that is being taken in bee-keeping, numerous new methods of quieting bees have been suggested. Amongst the more recent of these is carbolic acid which has long been used as a disinfectant in the treatment of foul brood. Commenting upon the use of carbolic acid, a contributor to the Journal of Horticulture, London, England, makes the following remarks:

The introduction of carbolic acid as an intimidator in bee-keeping has been of incalculable value in rendering manipulations easy and operators confident, but either through fear of handling it, or lack of information respecting its use in such a capacity, it is not used as extensively as its merits demand. It is admitted that the more experienced amongst us use it regularly, and would not on any account be without it in the apiary. Its advancement only need to be more widely known for its use to become general. One of the many uses of this acid is as a preventive of robbbing. A solution composed of two parts water and one acid smeared with a feather over the alighting board of a hive attached by robbers will in most cases, if taken early enough, at once effectually stop the trouble. In obstinate cases the smearing should be carried on at intervals of an hour until the disturbance ceases. It is preferable to have the diluted solution, as the acid when used pure is so strong that the slightest contact will destroy a bee, injure clothing of the operator, or blister the hands. Even the diluted acid must not be used too freely. The use of a two of water to one of acid solution for qieting bees is the one which ought to be more generally in use.

The following method explains its use:—To subdue a colony the quilt is slightly turned back at one side, and a feather moistened with the mixture is passed over the top of each frame as the quilt is removed, and every bee quickly disappears below much faster than when smoke is used, and there is not the slightest danger of crushing the bees by handling the frames with bees around the finger-ends.

Similarly in closing a hive the tops of the frames are again smeared with the solution prior to replacing the quilt, and it can then be done without crushing a single bee. By this simple method of opening and closing colonies it is performed with scarcely any disturbance or loss of bee life. The moistened feather streaked round the outside of a swarm when first thrown out makes them run away from it towards the hive pell mell, and the operation of hiving is accomplished in a very few minutes. The constant use of carbolic acid during manipulations will also prevent any stray spores of Bacillus Alvei (foul brood) being carried about and infecting other colonies, as it is a germicide of high value, not only killing the spores but the bacillus also. There are innumerable other purposes to which this article may be put in an apiary.



The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

Exchanging Supers, Bees and All

Exchanging two extracting supers, bees and all, is quite a heroic operation, as well as being time-saving, provided no hitch occurs. Interesting to see that it is done practically. But we note that Mr. Dadant does not consider the exchange of bees as a thing to be desired of itself. Bees are exchanged because it takes a great deal more time to shake off bees and exchange combs. Page 464.

Nursing Weak Colonies Over Strong

If you do succeed at nursing weak colonies over strong ones, why not add the Canadian *kink* from page 466? Let the weaker colony have the stand when the separation is made. If it is simply put back where it came from the loss of its flying bees will be a heavy payment for the nursing it got.

Number of Bee-Visits for a Load of Pollen

I protest against *our* saying off hand that a bee visits 50 blossoms before she has a load of pollen. By just such recklessness as this we oft make ourselves *"particeps criminis"* in much of the enormous bee-nonsense that goes round the newspaper press. Just as cheap to say 50 visits per trip might be called a *fair average* if that's what we mean. Answers all purposes just as well. Page 469.

Smartweed and Smartweed Honey

Better we don't say "smartweed" except in regard to the plant which is smartweed really, by the possession of acridity. On general principles smartweed honey should be only slightly flavored with the acrid principle when the yield is profuse, but much more so when the yield is small. The species resembling smartweed are fine yielders of honey, smartweed itself a very poor yielder (if my observation is correct). Moreover, smartweed seldom grows alone; while the plants resembling it grow alone in vast acreage. So I suspect we shall never know what genuine smartweed honey is like—and it don't matter. Page 481.

"Light Brood" Comb Foundation in Texas

Why is this thus? Down in Texas, it seems, 8 sheets of foundation to the pound is "light brood." Last box of "medium brood" I bought was 25 sheets in a 3-pound box. Page 465.

Good B's that "Turn Up" Often

Ever and anon, at intervals of 10 years, that swarm of B's turns up—some old B's, and some new ones. This time they are mostly new. But enough of the old ones remain to prove that B's live longer than the 7 years allowed them by Virgil. As to the quality of these bees, they beat the Caucasians, I should say. These are Christian bees. Page 482.

The Government and Caucasian Queens

Dr. Bohrer strikes a good idea when he advises the government apiary to give away Caucasian queens *but make the conditions so severe* (isolation conditions) that only a few would be able to take them. Right persons get 'em then—and benefit to the public made much greater by preventing such a lot of mismated Caucasians.

Of course, no breeder has Cyprian blood octorooned into the Italian queens he sends out—O no! But Dr. B. notes how vicious temper turns up where Cyprians are experimented with near by. Page 483.

Pollen-Carrying a Test for Bees

Mr. Alley says he observes that one *colony* carries larger pollen-pellets than another. I rather think this is so. Does it betray the relative amount of interest the bees take in their work—the more the zeal the larger the loads? Queenless bees, with their don't-care-whether-school-keeps-or-not, are credited with the smallest loads of all. If this is all straight, we seem to have a very handy test to select by applicable both to bees and breeding queens. Plainly this test should be applied, if at all, only when bees are working *mainly* for pollen, not when they work mainly for honey and incidentally bring along a little pollen—most of them bringing none. In such a case a neighboring colony that happened to need pollen more might make a much better showing without being any better bees. Page 484.

Mr. Alley and His Queen Comments

Mr. Alley is specially qualified to say some of the things he says on page 484. "See that a queen puts but one egg in a cell, and that the eggs all cant the same way—point down." "When I find a queen whose eggs are small, and canted in all ways but the right way, her head comes off quickly, as such queens are worthless for any purpose." But it strikes me that his preference for big eggs might easily be run to extreme. The weight of eggs a queen may lay in one day, compared with the weight of the queen herself, is astounding; and there must be a limit to it somewhere. Suppose, then, for instance, a queen is laying say 2 grains weight of eggs per day. Two grains of extra-big eggs *wouldn't count out nearly so many* as two grains of normal sized eggs, presumably just as good.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

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See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Convention Proceedings

NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 601.]

Pres. Dadant—We will now take up the next subject by Mr. Holtermann, of Canada.

MIGRATORY BEE-KEEPING

Mr. Holtermann—As to migratory bee-keeping, there are those who carry it on in one sense, and, again, others who carry it on in another sense. I may say I have read more or less of the European bee-literature with profit, and in Europe migratory bee-keeping, the moving about from one section to another has been carried on to a greater extent than upon the continent, and I believe it is a line in which we can receive instruction from others; and after receiving hints and suggestions we can get from Europe, with all due respect to European bee-keepers, we in this country can improve upon their method as a rule, because we are practical to a greater extent.

First of all comes the question whether it shall be carried on at all or not. In my estimation every specialist should in a sense carry on bee-keeping in that way. Unless it be in a section of country foreign in nature entirely to my own and that which I find in the Northern States, no specialist should create permanent large apiaries to any extent. I find conditions vary from year to year so much that it is desirable for one who makes a special business of bee-keeping to be able to go to favored localities.

In our Province the year before this the clover was largely killed out; it had been killed out by thaws, snow and rain, and then the freezing in of the clover and smothering. I had intended to go to a certain section. I had my super-combs arranged for that purpose and I found out by going to a section of country where there was very rolling land I could get a fairly good clover locality, whilst if I had remained in the territory which I originally intended and had before gone into I would have had no clover surplus at all.

Again, you know the rainfalls vary in every locality. Even within a few miles you can go and get quite a difference as far as rainfalls go. In the heavy clay lands, if in the early part of the season, you get a shortage of rainfalls; it takes more rain to bring that ground into condition for yielding honey then it does upon the lighter soils; and one should be always ready to pack up and go from one section to another.

Again, I find if you get into a section of country where there are good early flows, that then you can not in that same section get good and heavy late flows, and for that reason for the specialist, if he can move an ordinary distance, say 40 miles, he can secure a larger yield, and in that case I would advocate the moving about of the bees. Each person must decide for himself after studying up the conditions, whether he shall practice this system of bee-keeping or not. To a certain extent, it is his own business as to whether he shall practice it or not, but it is everybody's business as to *how* he shall practice that. We have had some discussions in our American bee-literature as to the advisability of moving bees when the hives are open; and I feel very strongly upon this subject, as to whether he shall do it or not; and I do not hesitate to say, after years of pretty extensive experience in moving bees, that it is a very great mistake to attempt to move bees with open hives. You know that as far as bees are concerned, they rarely do any harm as far as life is concerned; that if anywhere upon this continent a life is lost through the stinging of the bee, it passes through the whole press of this continent; whilst with other live stock there are so many accidents happen, and they are so common, that the incident is not mentioned, or is only of local interest.

Now, I know what I am talking about, because my system gives me a chance to know just what bees will do as to coming in and out of an entrance. I am willing to admit, if you get your bees started safely and are on the move, the bees are not likely to come out. But I also know that you never know at what moment you may have to stop, and then, when you start again, you do not know whether you are going to get into trouble or not.

I have a permanent portico upon this hive; it may be attached to any hive. At the entrance of my hive a screen is slid down in front, and I know just *exactly* how the bees will act when the entrance is open, or is not open. When we first start the bees will come out; they pass really out of the hive and come to the entrance and will circle about in the screen, in that portico, depending upon the temperature and strength of the bees, and so on; they will either stay there or go in again; and you can go along the road and see, perhaps, sometimes, no bees outside of the hive; but you stop, and then jar your wagon, or whatever you have, and start up again, and that is the time when the bees come out and the time that the danger exists. Now, in moving bees we want to have everything arranged as expeditiously as possible; we want to be able to pack up and move at any time, and the device I have at the front of the hive is with that object in view. I have found the matter of screening bees in the hive, or by having screens above or below, is a very different thing in principle, to having a screen out at the front, the way I have it. When the hive is barred, the bees can come out of the entrance; they don't seem to feel the confinement in the hive and they act in a different way from what they do if the screen is close to the brood-chambers. With the ordinary entrance the bees in their efforts to get out, pack against that screening and shut off ventilation. In this system, when we are going to move, we put on the screens during the daytime and the earliest moment at which you can get away in the evening

R. F. HOLTERMANN.

is the desirable one. If you can close your hive, and load up, and get away, before dark, you are a great gainer of time. So, in practicing this system of moving about, we put in the screen in the hive in this way, then, towards evening, when the bees begin to discontinue flying, we take the colonies, those that are the earliest ones to quit, and we simply drop the screen in place, put a tack here, and the operation is finished; and in ten minutes we can have our bees loaded and move away. We load upon hay-racks because they are available at almost all times, and it is a very nice way to load them. We put three across in the wagon and put plenty of hay in there; and by means of the rack and hay or straw we get sufficient spring to keep the comb from breaking down. We load them up with one row in the center, and one either side, and move away. In such a way I have tried to plan to do this work as expeditiously as possible. I have no bee-space in the top of the hive. And I think you will find it an advantage in having it below rather than above. In our practice we must simply and quietly judge by what means we can get the largest number of advantages to suit our own case, and then adopt that. And for that reason, after carefully weighing, I decided on not having a bee-space above, but rather below; and through the screen excluder, or super, or cover, what ever it is, by not having the bee-space above, even if you have not got frames where the sides are self-spacing, you can keep them from rocking.

Our covers are arranged in this way: I don't intend to blame the supply dealers. A supply dealer cannot waste his energies in educating bee-keepers; he has to use his energies in supplying goods and putting them upon the market, and he can't go ahead of public opinon. As long as bee-keepers are content with a ⅞-inch board cover so long he must give it to them. The cover which I use here is a ⅜-inch board with a ⅜-inch lining, and this is filled with felt paper, which is a great non-conductor, and is of very great use in either cold or hot weather. This is a felt underneath which I imported from England for the purpose. It is tacked on the cover and it rests on the hive; and then we have this galvanized-iron top which is good for 25 years. It costs more, but eventually it is cheaper; having put that cover on, by simply driving a nail at either side it is closed. Of all the things I have tried I have so far succeeded in getting no better method than a very crude one, and that is simply the stripping up the sides of the hives in order to connect the upper stories and the brood-chamber. This year I moved bees 4 or 5 times during the hottest time in the summer—August.

For several years I moved with two supers on quite frequently, but the most practical method I have found so far—I haven't succeeded with clamps—is simply to strip up with a lath—one on each side and one at the back, in order to keep the different things together. In doing that there is more or less of nail driving.

Dr. Miller—Do you object to the common staples?

Mr. Holtermann—I have used those. I have never had any accidents with them, but after using them I came to the conclusion that it was not quite safe enough for me, so I abandoned them again and used the lath. A hive might get broken up. I don't want anything to happen, and that is the reason why I left the staple and used the lath.

Dr. Miller—I have used both the lath and staple for years, and I have had more trouble with the lath coming loose than the staples.

Mr. Holtermann—That is a matter you will have to decide for yourselves. I want to say to those of you who have not practiced this moving about of bees, if you want to know what hard work is, begin that line of business. In my estimation, to simply set down the bees and run them for one season in one place is play, when you compare it with what you get when you have to move your bees about, and perhaps be up all night some times, and carry on the business in that way. But in my estimation there are many localities where you can get much better results by moving them. No one should do it unless he knows *how* to do it, and follow it up carefully and watchfully.

In moving, the bees get restless in hot weather, and perhaps you have seen them, when they were screened, with their tongues out through the screen. Now, we water our bees, and in moving them I think it is exceedingly important. Give the bees sufficient, and you will be surprised how they will quiet and cool down under those circumstances.

I also find a peculiar characteristic of the Italian bees in this respect, and that is this: Of the blacks, hybrids and Carniolans and Italians, the Italians I found were the only bees, when they got very restless or very excited and began to run about, that would actually turn upon one another and sting one another to death right in the hive; but by watering you can always stop that, and overcome these difficulties. I believe by not watering them you might have very disastrous results by having them destroy the brood. The time will come when they will suck the food from the young larvæ, and in a very short time destroy a number of young bees.

Mr. Abbott—How many pounds of honey do you get from your hives from those 5 moves?

Mr. Holtermann—In the Farmers' Institute, when they asked that question, I replied by asking them, How much milk do you get from your cows?

Mr. Abbott—I get about 2 gallons from mine.

Mr. Holtermann—It is a very long and interesting study. Clover does well upon clay soil. I don't believe under proper conditions there is any soil it will do as well upon. When you turn around again to buckwheat, I used to say, the better the soil the more yield you will get from the blossoms. It depends upon the nature of the blossom. You have got to get down to the kind of soil that the plant will do best upon. This year has been an exceptional year for me. I have had from 296 colonies of bees over 60,000 pounds of honey, and I have done no feeding. My 12-frame Langstroth hives will average 85 pounds going into winter quarters. But I don't want this convention to think, and Mr. Abbott knows well it is a question you can't answer—to get the best results out of it, you have to be a careful observer.

Mr. Abbott—On a chance estimate what would you get? 200 pounds?

Mr. Holtermann—No, not when I say this was an exceptional year with me. But I think the members of the convention here will justify me in saying that I could not give an honest and sincere answer to that question.

Dr. Miller—Do you use the cover altogether, regularly, in that way?

Mr. Holtermann—I use it regularly in that way.

Dr. Miller—Will you give us about the cost of the two parts?

Mr. Holtermann—This thickness of galvanized iron can be bought for a 12-frame hive, made up, for about 17 cents. The rest of the cover would be about the cost of your hive; and the felt paper, you will have a pretty good idea of what felt is worth in your country. I don't want you to figure that cost with a ⅞-inch ordinary board. In the spring of the year there is heat escaping from that, and you know how often, if there is a lot of frost, you find that no frost has fallen upon the cover, and that indicates the heat is passing off from that cluster at that time of the year; it is a very expensive cover, if that is the case, because you are not only using honey that is required to produce that heat, but the vitality of the bee is being exhausted. If that were all it would be sufficient, but, more than that, you are curtailing the capacity of those bees by using that kind of cover.

Dr. Miller—If there is any part of the hive that I would not economize on it is the cover.

Mr. Holtermann—When you go into the dairy business you are not looking around for $25 cows, but for the cows which for the least amount of food and looking after will give you the greatest returns; and just so soon as bee-keepers will look at matters from that standpoint, so soon will the supply dealer give them something better than he is giving them today. There are little unevennesses in your combs and quilt, and so on, and if you have a plain wooden cover over them there must be more or less spring out at the sides. With this soft felt there is sufficient "give" to it to overcome this unevenness, and the cover fits down more closely.

Mr. Putnam—Did you ever use wool-twine to tie around to hold the hive together?

Mr. Holtermann—No, I have read of it, but I wouldn't want it. When I start I want to be sure I am not going to have any accidents.

Mr. Abbott—I was thinking while Mr. Holtermann was talking about the people who were interested in that kind of thing, how many there were of them, and how practical it was; and I tried to get at the practical side of it by getting a direct answer from Mr. Holtermann. Now, while it may be applicable in Canada, I wanted to see if it would work in Missouri. I know how much honey we get down there without migrating, and simply sit down and stay there. I migrated for about 20 years of my life, and I was sick, and $150 worse off than nothing, until I sat down and began to do things, and then I found myself in better condition. It was a question with me whether this migratory bee-keeping might not be an expensive amusement.

Mr. Holtermann—It would be very expensive if it were an amusement.

Mr. Abbott—I wanted to find out whether Mr. Holtermann was pursuing this line of action simply because he found satisfaction in it, and was solving problems he wanted to solve, or whether he believed it was of practical utility to all the bee-keepers in the United States and Canada. Down in Missouri we can get from 150 to sometimes 250 pounds of honey from a single colony of bees if the clover yields well. When there was plenty of basswood, 150 or 200 pounds was nothing. Now if Mr. Holterman doesn't get more than that it seems to me it would not be practical for us to move if we would only get honey to the extent he would get. He said all of this boxing-up business, and so on, would be ready in ten minutes, but I question if he can get ready to move for less than a dollar per hive every time he moves.

Mr. Holtermann—Did you have this kind of device?

Mr. Abbott—Yes.

Mr. Holtermann—I doubt it.

Mr. Stewart—I moved 90 colonies of bees 7 miles a year ago last fall, and it cost about $10. I moved them out of a location where there was no possible show of their getting any surplus honey at all. I got from that apiary 1,500 pounds of honey after I moved them. You can figure whether it paid or not.

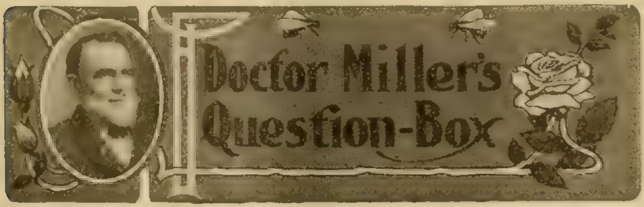
Mr. Holtermann—I have been practicing this for 4 years, and if I am in the bee-business another 4 years, and have the necessary health and strength, I shall likely practice it. I keep a careful record of all my expenses, and I know at the end of the year what I have.

Mr. Baxter—I know in Illinois that the moving of bees has paid under certain circumstances. I have seen it done.

Dr. Miller—I would not be fool enough to spend money moving bees 5 or 10 miles in any direction, no matter whether I got at home 50 pounds or 150 pounds, because I wouldn't gain anything by it. There wouldn't be anything more to get where I moved them. But it is not a question whether at home I got 150 pounds or 20 pounds, it is a question as to whether I get more somewhere else. Now, if there is somewhere that I can go to where there is a yield of honey and none at home, I might make money by moving, even if I were to have 150 pounds at home.

Mr. Abbott—It is all right to discuss these things, but is there anything in it for the great mass of bee-keepers?

(Continued next week.)



Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Renewing Brood-Combs—Stores for Winter—Chunk Honey vs. Section Honey

1. How many years can bees use comb in the brood-chamber before it should be cut out and new comb built?

2. How late in the season can bees build comb? Bee-keepers here say not after the middle of July.

3. Will a single Danzenbaker brood-body hold enough honey and brood to winter safely here?

4. Will my bees store more honey in shallow extracting-frames (that is, chunk honey) than in sections? North Carolina.

Answers.—1. I don't know. I've seen instructions to have comb renewed every 3 or 4 years; but in my 45 years' experience I have never yet rejected good, straight worker-comb merely because it was old. I don't see but the oldest combs I have are all right yet.

2. I suppose they *can* build comb any time; at least I've known them to do it in winter; and they will probably build it any time it is needed. Certainly comb is often built after the middle of July; as, for example, the comb built for buckwheat honey.

3. If the combs are well filled it ought to be a plenty.

4. Probably they will.

Catnip Honey

Finding that catnip does well here, and finding the honey is bitter, I want to ask whether or not the honey will sell; and where and to whom, and at what possible price? Georgia.

Answer.—Catnip has the reputation of producing honey of good quality, and it must be that the bitter honey comes from some other plant that is yielding at the same time. Bitter honey is of course unfit for table use, but it can be sold for mechanical purposes at not very much less than good dark honey, probably through any commission-house at your nearest large city. Unless you have a very large quantity of it, your best plan may be to feed it in spring and have it all used up in making brood.

Color of Caucasian Bees

I have read different accounts about Caucasian bees, but had never seen any until the other day a gentleman who breeds them showed me some. They looked like the Italians, only the dark stripes seemed a little blacker. Now, if I read rightly, it stated that the Caucasians were a little darker than the black bees. How can I tell them from other bees? Minnesota.

Answer.—It is not likely that any one can give in words a description so exact that by that description alone one who has never seen a Caucasian bee can make a definite decision. There are said to be lighter and darker Caucasians, so that, like other bees, you are not to expect all to be alike. I can give no description better than given on page 250 of this journal, by Rev. Lyon and Prof. Benton, as both of these gentlemen are familiar with Caucasians.

A Beginner's Questions

1. If one should place a super of sections on a strong colony, the sections mostly filled with comb from which the bees had taken the honey the year before, and when they got them partly filled with honey (but not capped), and one should raise the super and place under it a super of sections with only starters, would there be any danger of the bees carrying the honey from the upper super to the brood-frames below?

2. How long after the prime swarm is hived before there will be young bees hatching?

3. How long after a virgin queen is hived with an afterswarm before she will be laying?

4. Does it hinder the bees from putting in honey to have a drone-trap on the hive?

5. Is it any harm to destroy the drones the first part of the season when there are lots of them? or would it be better to let them live until after swarming is over?

6. Is there any danger of blood-poisoning from the stinging of bees? Maine.

Answers.—1. The bees would carry no honey from the upper super into the brood-chamber unless the super should be left on after the close of the harvest, and they would make very slow work about it then. I do the very thing you mention every year.

2. It takes 3 weeks from the time an egg is laid until the young worker emerges, so it will be 3 weeks from the time the swarm is hived until the first young bee emerges, if the queen should begin laying immediately after the swarm is hived; and it will not be long after the hiving before she begins to lay.

3. A week or so.

4. Not seriously.

5. In the average apiary there will probably be enough drones left after you have made the attempt to kill them all off. Prevention is better than cure; so it is better not to have drone-comb in any hives except in a few where your best honey-gatherers are.

6. I don't believe so.

Few Drones with Transferred Bees—How Often to Renew Combs

1. I had 4 colonies in box-hives which I transferred to movable-frame hives last spring by drumming most of them out, and then after 3 weeks *to a day* I drummed out the hatched and nest, emptying the boxes. They were fair-sized colonies, and at the first drumming about an equal amount was drummed out of each box—*all* workers and the queen of each; at the second drumming 3 boxes gave about an equal amount—*all* workers; but the fourth box had at this time about 3 or 4 times as many workers and about 20 husky drones. Is there any significance in this? Should the others also have had drones?

2. I put them all in 10-frame, full-sheet, wired-foundation hives, and would like to know how many years these frames with comb may be left in the hives before they should be replaced by new foundation? Illinois.

Answers—1. It is not likely that there was any special significance in the fact that no drones were present at first drumming and only in one colony 3 weeks later a few, unless it be that it signifies that you did the transferring earlier in the season than most would think advisable. For in box-hives in which the bees build comb at their own sweet will, there would pretty surely be a good proportion of drone-comb, and just as surely drones would be present unless the transferring were done very early. There would have been no advantage in having drones in the other 3 colonies.

2. I don't know how old your comb must be before it needs renewing. You see I've been keeping bees only 45 years, my first bees were in box-hives, and I'm not sure that I have now any combs much more than 30 years old. They are all right yet, and look as if they were good for 30 years more.

◆

Management of Old Colony and Swarms

I have but one colony of bees, and have had one for two years. The one I have is a year old. I would like to know what to do. The bees are not working in the sections for comb honey. I put them out last spring with a nice lot of honey, and they worked well all through the bloom, for they must have filled it below, and swarmed twice, the first one coming out the first day of June.

I also have some sections in the hive that have comb in them, left from last year, all clean and white. What can I do to make the bees work in the super? The hive-entrance is about 7 inches wide. I do not know whether they are being robbed or not, for they seem to be very quiet, and always go in and out in a hurry. The hive faces east. They get the morning and evening sun, and are shaded the hottest part of the day. Ought I to change their place since they swarmed? If so, what distance? It is a strong colony. WISCONSIN.

ANSWER.—You say your colony has swarmed twice, but don't say anything about what you did with the swarms. In the absence of any more information, it is a pretty safe guess that you merely hived each of them in a separate hive, leaving the old hive on the old stand. That would weaken the old colony so much that you ought not to expect it to do any storing in supers unless the season should be unusually good and continue late. Even if it lost the force of only one swarm, it would be weakened too much to do any storing in supers for a good while, if indeed it stored any at all, but after two swarms having left it, nothing in the way of storing should be expected. Moving the hive now would do harm instead of good.

All the foregoing is true in a good season, but the great probability is that the season is very poor with you, as it is this year with many others in Wisconsin, and also as it is here. My bees have not been weakened by swarming, but they are not doing a thing in supers. There is clover in plenty, but the bees don't seem to get any nectar from it.

So don't be discouraged if you don't get a pound of surplus this year; next year may be a good year. Let me tell you how to do another year: When the bees swarm, set the swarm on the old stand, and set the old hive as close to it as you can; no harm if one hive touches the other. After a day or two set the supers from the hive on the new one (for the likelihood is that you had supers on before it was time for swarming.) About a week after swarming, move the old hive to a new stand, perhaps 8 or 10 feet away. The result of that will be that the field-bees that leave the old hive, upon returning with their loads from the fields, will join the swarm, making it very strong, and you will get a lot of surplus from it. All that ought to be expected from the old colony is that it build up strong for winter.

Reports and Experiences

Bees Have Done Well.

Bees in this part of the country have done very well so far this year. They have been working on white clover since the forepart of May.

Everton, Mo., June 25. J. T. CANTRELL.

Pays to Look After the Bees.

My bees are fine. I wintered them in the cellar and did not lose a colony. Some of them have the second super. I find it pays to look after the bees early in the fall, as I did mine, and see that they are all right, with 20 pounds of good, capped honey for winter. WM. MATTHEWS.

Lancaster, Wis., June 21.

Honey Prospect Not Encouraging.

The prospect for honey in this section is anything but encouraging so far this season. The spring has been so wet, cold and windy that the bees could not fly. The first crop of alfalfa is already cut and stacked, and the bees have not begun to work in supers yet. There is very little prospect of their gathering from raspberries or any other fruits. The only chance they have is to get something from sweet clover, and possibly from the second crop of alfalfa. The loss from cellar-wintering was greater last winter than from those wintered outdoors. V. S. JOHNSON.

Spearfish, S. Dak., June 29.

Honey Scarce During Rain.

Honey has been coming in well up to within a week, but now it is rather scarce during so much rain. E. G. GUTHREY.

Malta Bend, Mo., July 4.

A Bumper Honey Season.

Of all the seasons I ever saw here this is a bumper. Season after season has passed and never have I taken more than 2 supers from the best of colonies during the summer season, although I have taken as much as 5 supers (164 pounds) from the Spanish-needle in September. But for the past 8 weeks the bees have been pounding away—well, slow but sure. Rain about the first of June gave clover a fresh start, and now the horsemint is in bloom. All but 2 or 3 colonies have 2 supers each, several have taken 3, and a few bid fair to take the fourth, with wood-sage, sumac and buckberry yet to come. Usually buckberry yields well. I haven't extracted any honey yet. I have had but 2 swarms, and no guessing. They are busy, and so am I. CHAS. M. DARROW.

Milo, Mo., June 18.

May Get Some Honey Yet.

The last 10 days were the best days of 1906 for the busy bees. They have gone to the supers very nicely. It was too cool and wet before. We may get some honey yet.

Stockton, Minn., July 3. W. K. BATES.

Croton Plant.

I send a flower that a friend gave to me a week ago, and nobody knows its name. If the bees work on it the honey would be perfumed so nice. What is the flower?

Seneca, Ill., June 26. A. J. DIEBOLD.

[The name of the plant is Croton—Croton monathogynus—and belongs to the Spurge family. The perfume collects in glands throughout the plant and not in the honey-sacs exclusively, so the honey would not be scented very much. As the Spurge family is not noted for its sweetness, it is probable that the Croton plant will not prove of much value to the bees.—C. L. Walton.]

Satisfactory Honey Crop.

The honey crop is very satisfactory this season, and of exceptionally good quality—pure white clover. A. H. NOBLE, SR.

Nashville, Tenn., July 5.

Earthquakes and Honey.

This season hereabouts has been the best for honey I have known since 1893. My regrets are that I did not take up the care of the bees in time, else I might have made a record-breaking harvest of honey. The rains were spread over a large stretch of the season—the latest heavy rains I ever knew fell the last of May. The flowers are numerous, and will last a long time. The bees have not swarmed badly—one reason being a good many colonies did not breed up fast owing to being weak from the poorness of last season, and the lateness of the spring.

I will write of earthquakes and honey—not that the former produce the latter, or the latter the former. Let me propound a query: Is an earthquaking country a good honey-producing country? Let's pass it on to Dr. Miller. I can say, "I don't know." Can't he do better?

What caused me to propound this question is this: I am in a good portion of the burned San Francisco almost daily, and being somewhat of an observer by training and otherwise, I note what is going on there, besides seeing the remarkable grit of its citizens in clearing off and rebuilding their city. The Golden Gate City was burned on April 18-20; little was left standing, especially vegetation. On the heels of the fire came a heavy rain, and a few weeks later a still heavier one. Now, what is remarkable, weeds spring up everywhere, excepting in the late business section which is covered with brick, stone and iron debris. A week ago I noticed that some of this phoenix or salamander-like (just as you wish to call it) vegetation is in bloom. How's that for quick flowering? About 6 weeks from the seed, and most of these flowers are yellow—California's golden color. And best of all, they are one of our best early honey plants—the sort that blooms in December, January, etc. They are of the turnip or rape family, with a small sprinkling of mustard. Some alfillaree, too, are coming into bloom.

I did not go to the city the past 2 days. Yesterday opened up gloomy; in the afternoon it commenced to rain, and during the night it was quite a downpour. You see we have been having an unusual amount of rain, and at unusual seasons.

What do you think? We had another quake some time during the night. It was quite a respectable one, and I guess it woke me up, though I am not sure on that point. We have had a lot of 'em since the big shake-up, and don't mind 'em a bit.

Oakland, Cal., June 16. W. A. PRYAL.

Figwort.

Herewith you will find a sprig from a plant a few stalks of which I find near my bee-yard. I suppose I ought to know what it is, but I don't, so send it to you for information. The bees are absolutely wild to get to the little flowers, a few of which may be seen on this branch. WM. M. WHITNEY.

Lake Geneva, Wis., June 29.

[The plant in question is the Figwort—Scrophularia nodosa—so-called because a reputed remedy for scrofula, and a good honey-plant, too. It is a good idea to allow this plant to grow in waste places around the bee-yard as it yields a good quantity of excellent nectar.—C. L. Walton.]

GOLDEN AND LEATHER-COLORED
ITALIANS

Price of Golden Queens. Before July 1st: Untested, $1 each: 6 for $5; 12 for $9. Warranted $1.25 each; 6 for $7; 12 for $13. Tested, $1.50 each. Select Tested, $2 After July 1st: Untested, 75c each; 6 for $4; one dozen, $7. Warranted Tested. $1.25 each; 6 for $7: one dozen, $13. Tested, $1.50; Select Tested, $2: Breeders, $5. Caucasian Queens will be ready to mail July 1st; Untested, $1 each; 6 for $5. Warranted Tested, $1.40 each; 6 for $8.

We have three yards—two Italian and one Caucasian—and mean to meet the demand of the trade. Prices of Nuclei on application.

29Atf D. J. BLOCHER, Pearl City, Ill.

Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	[illegible]	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8.00	$ .95	$ 5.00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10 00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested ..	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18 50	2.20	11 00	19.00

Straight 5-band Golden Breeders.......	$10.00
Select Golden Breeders	3.00
" 3-band "	3.00
" Carniolan "	3.10
" Caucasian "	3.25

1-frame Nucleus (no queen)	$1.50
2-frame " "	2.00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive......................	6.00

Bees by the pound in light shipping-boxes, $1.00 per pound.

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

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Flint, Mich. W. Z. HUTCHINSON, Sec.

Chautauqua Lake, N. Y.,

and return, via Nickel Plate Road, July 27th, at $14 00 for the round-trip, from Chicago. Return limit August 28th. Chicago City Ticket Office, 107 Adams Street. La Salle St. Station, the only depot in Chicago on the Elevated Loop.

15—29A2t

CAUCASIAN QUEENS!

I can furnish a limited number of Queens of this popular variety, bred from a Tested Queen sent me by the Agricultural Department, all mated in a mating yard away from all other bees, so that all of my Queens will be almost sure to be purely mated. These choice Queens only $1.00 each. **C. W. PRICE**

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Golden and Leather-Colored

One Untested Queen, 50c; 6 for $2.75. One Tested Queen, 75c; 6 for $4.00. Safe arrival guaranteed.

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R.F.D. No. 4, FT. JENNINGS, OHIO.

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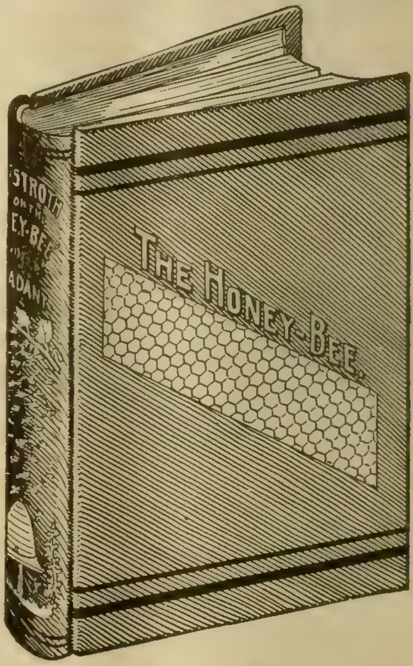

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MAINLY FOR QUEEN-BREEDERS

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TWIN NUCLEUS AND MATING BOX has control of the queen by a 3-hole wheel on the outside, with one hole wire-screened, one hole covered with queen-excluding zinc, and the third hole to regulate the size of the entrance. (Patent applied for.) Price, $1.00.

CYLINDER CAGES postpaid, each, 10 cents. QUEEN-CELLS, 100 mounted, with sample of Cylinder Cage (sent postpaid,) for 75 cents.

BREEDING QUEENS, after May 1st—Italian, Imported and Golden Italian, and Carniolan—$2.50 each. Orders booked now and filled in rotation. Send for free Circulars. 7Dtf **ARTHUR STANLEY, Dixon, Lee Co., Ill.**

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Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS** now. Write to-day. Address,

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TOLEDO

Will save you money. We will buy your Honey and Beeswax, and pay highest market price. It will pay you to correspond with us when your crop is ready to market. No shipment too large for us. Carloads a specialty.

QUEENS! QUEENS! QUEENS!

We have a yard at Toledo with 100 colonies and over, which we use for queen-rearing only, besides several out-yards which we run for honey; also for extra bees. Brood and queens are mailed the same day order is received.

OUR 70-PAGE CATALOG IS SENT FREE

To any one asking for it. No matter whether you keep one colony or 500. We also handle a large line of Poultry Supplies, and sell Eggs for hatching. Our 1906 mating list is sent with every catalog. Don't buy until you have seen it.

GRIGGS BROTHERS, 521 Monroe St., Toledo, Ohio

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Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of **SUPPLIES.** Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
17A26t 138 N. Pleasant St., Norwalk, Ohio

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— NOW READY —

ITALIAN AND RED CLOVER QUEENS

I guarantee safe arrival and perfect satisfaction. Untested, 60c; select untested, 75c, or $8 per dozen. Tested, $1 each, or $10 per doz

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Send for our 1906 Free Illustrated Catalog. Good Goods, Low Prices and Prompt Shipments are what you get if you send your orders to—

PAGE & LYON MFG. CO.
New London, Wis.

Rose Lawn Queens

Italians—Carniolans—Caucasians

We thank our friends for the liberal patronage extended to us, and beg to announce that we have largely increased the capacity of our queen-rearing yards, and will be prepared to fill orders promptly after July 1st.

Our prize offer on honey production is extended to Oct. 1st for those who wish to try our "Pure Gold Queens."

We call special attention to the superior qualities of our Red Clover Italians and Yellow Caucasians which are worthy the attention of progressive bee-keepers.

PRICES AFTER JULY 1

Italians and Carniolans, Select, Untested, 75 cents; six, $4.00.
Caucasians, Select, Untested, $1.00; six, $5.00.

Banat Queens for those who wish them.

Special prices for larger orders and breeding stock will be given on application. Write for Catalog.

ROSE LAWN APIARIES,
22Atf Sta. C. LINCOLN, NEB.

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Italian and Caucasian

BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen.....	$ .65
" Tested Queen.......	.90
" Select Tested Queen	1 10
" Breeding Queen.....	1.65
1-comb nucleus (no queen)	.80
2 " " "	1.40
3 " " "	2 00
1 Un. Caucasian Queen,	1 25
1 Tested " "	1.75

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

J. L. STRONG
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Italian and Caucasian Queens

A special discount is offered on all Queens and Bees ordered to be delivered before the close of the season of 1906. Pure stock, pure mating, and **excellence in grade** guaranteed. Address,

ROBERT B. McCAIN,
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Choice Queens

Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans — Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906.

CHAS. KOEPPEN,
26A13t FREDERICKSBURG, VA.

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$750 COCK

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DITTMER'S FOUNDATION

Has increased so much that we were forced to double our melting capacity in order to fill orders promptly?

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Our warehouse is well stocked with **all kinds of Bee-Keepers' Supplies.** Beeswax always wanted.

GUS DITTMER, Augusta, Wis.

Is 25 Percent on Sections Worth Saving?

If it is, you should write us before buying. We not only make the **BEST SECTIONS**, but our patented specially-constructed machines, built exclusively for us, enable our Sections to be folded without wetting. That means 25 percent less breakage, and consequently 25 percent saving to you. Our prices are no higher than others. Let us quote you.

Special prices on immediate orders.

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If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to
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Original
Direct Draft
CLEAN
Bee Smokers

4 Largest Sizes Soot Burning
Never Go Out
And last from 5 to 21 years
Pat'd 1878, '82, '93 & 1903

Tin 4-in. Smoke Engine $1.50. 3½-inch $1.10. 3-inch $1.00. 2½-inch 90c. 2-inch 65c—per mail. Wonder
Sent on receipt of price per mail.
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OTISVILLE, PA., Jan. 18, 1904.

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NO. 1 SECTIONS, per 1000, $4.20; No. 2 Sections, per 1000, $3.70. Root's Dovetail and Danz. Comb-Honey Hives, and all kinds of **BEE-SUPPLIES** at factory prices. Berry Boxes, etc. Italian Queens.
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Queens By Return Mail

Queens from our fine strain of 3-band Italians will not disappoint you; bees are gentle and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c, $6 per doz. Tested, $1 each.

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FREIGHT-RATES FROM CINCINNATI
are the LOWEST, ESPECIALLY for the SOUTH
as 'most all freight now goes through Cincinnati.
Prompt Service is what I practice.
You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
Catalog mailed free. Send for same.

Let me book your Order for QUEENS bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ... OHIO ...
Office and Salesrooms, 2146-48 Central Ave. Warehouses: Freeman and Central Aves.

Honey and Beeswax

CHICAGO, July 9.—Market is practically bare of comb honey, and while a little sells at about 15c for the best white grades, there is little volume to the trade. Extracted is in some demand at 6@7c for the best grades, but off flavors are about unsaleable at 5@5½c. Beeswax selling upon arrival at 30c. R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, July 6.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, July 9.—Advices from different points are rather conflicting regarding the crop of honey this season, and consequently, there is no market price established. Some new arrivals of comb honey selling at 13@15c, according to quality, and extracted honey at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, July 10.—We still have some demand for comb honey, mostly for white grades, which sells at from 13@14c, according to quality. A very limited demand for light amber, with sufficient supply, and prices ruling at about 12c. Extracted in fairly good demand, with sufficient supply to meet all requirements. Quite some arrivals from the South, and common grades are selling at from 50@58c per gallon, and better grades at from 60@65c per gallon. California strong, and white is selling at from 7@7½c, and light amber at from 6@6½c. No near-by honey in the markets as yet. Beeswax steady at 30c per pound.
HILDRETH & SEGELKEN.

CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, July 5.—The honey market here is almost bare and there is very little new stock coming to market. On account of the poor wintering of the bees, very little honey has been gathered. The market for the best white honey in 24-section cases is $3.25@$3.40 per case; amber and other grades are 25@50c per case less. There is no new extracted honey on the market, but a little old is selling at 5½@6c, but scarcely any demand. We look for a good demand later. C. C. CLEMONS & CO.

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock od hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c. Amber extracted in barrels, 5¼@5½c; in cans, ½c more; fancy white clover in 60-lb. cans, 7½@8½ cents; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.
C. H. W. WEBER.

Wanted

To sell lot of 300 empty 60-lb. capacity Honey-Cans. All in one lot, or less quantities. Cans are in first-class condition.

We are also in the market for Fancy Comb and Extracted Honey. Correspondence solicited

Michigan White Clover Honey Co.
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643 Broadway S.E., Cleveland, Ohio.
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FARMER'S CALL, Quincy, Ill.

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Yellow Sweet Clover Seed
1 lb., postpaid, 30c; 5 lbs., by express, at purchaser's expense, $1.00; 100-lb. lots, 15c per lb.
A. L. AMOS,
26A4t Rt. 1. COMSTOCK, NEBR.

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EXTRACTED HONEY
Write for prices. State quantity and kind wanted. Samples free.

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WANTED
To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping-cases; also extracted honey. We are cash buyers, and remit on receipt of goods.

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Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.
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BELL BRANCH, WAYNE CO., MICH

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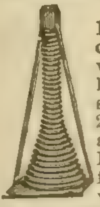

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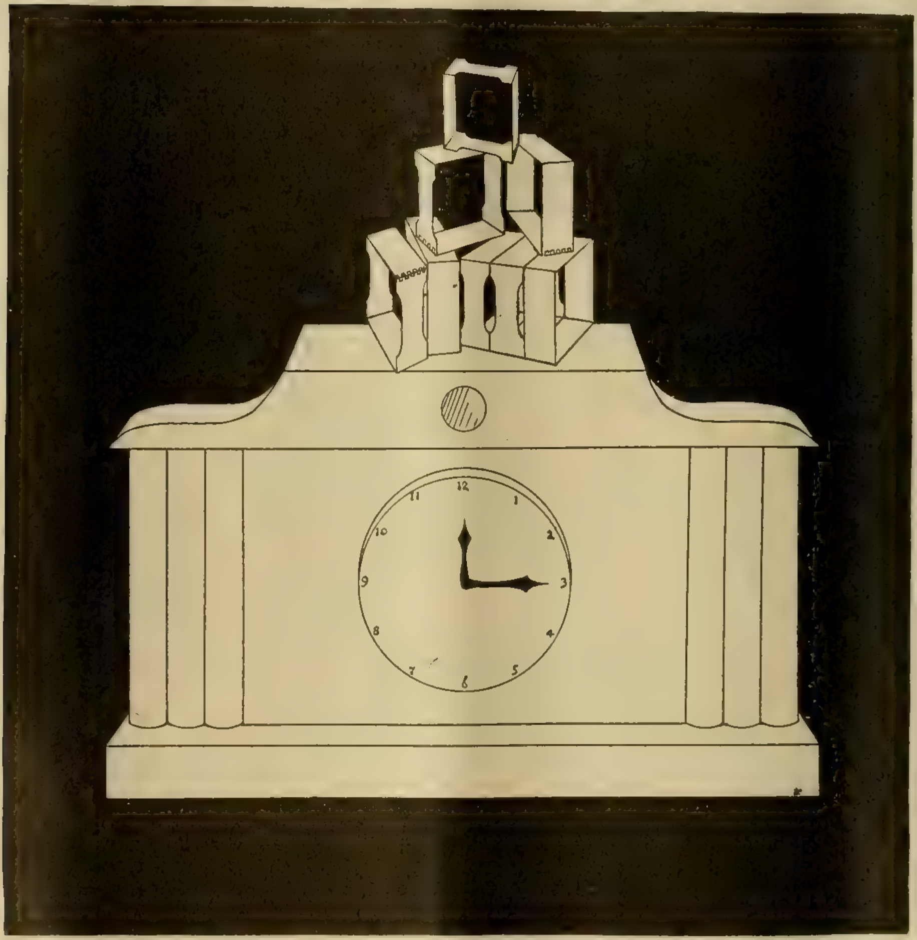

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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., JULY 26, 1906 No. 30

Fourth of July Pictures Taken at Dr. Miller's

(See page 634)

1. Dr. Miller in the Sweet Clover Bloom.
2. Milkweed in Bloom.
3. Two Sweet Clover Stalks in Bloom.
4. Row of Basswood Trees in Bloom.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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26 "	....20 "	1000 "	...20 "
52 "	....30 "	2000 "	...30 "

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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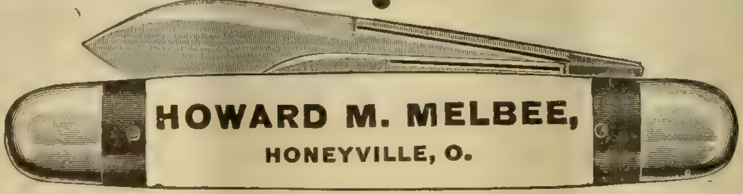
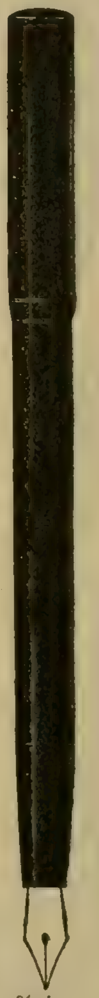


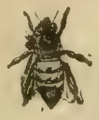
(This cut is the full size of the Knife.)



⅔ size

NOVELTY POCKET-KNIFE

(Name and Address on one side—Three Bees on the other side.)

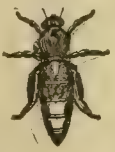


Worker

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.



Queen

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

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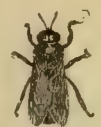

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Finally we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.

We mail this **Gold Fountain Pen** for only $1.25, or for $2.00 we will mail it and the weekly American Bee Journal for a whole year.

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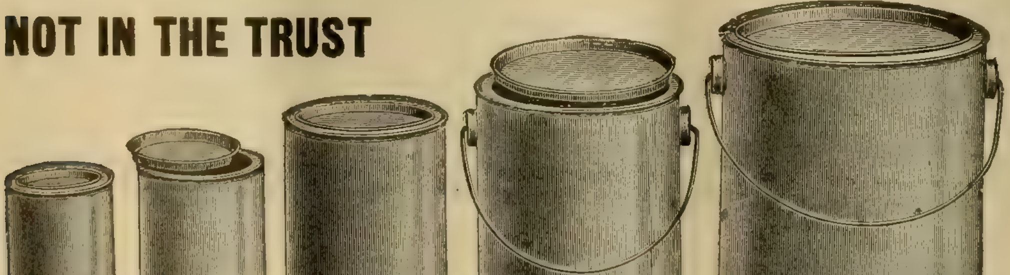

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Red Clover and 5-banded strains. Untested Queens, 75c; Select Untested, $1.00; Tested, $1.50; Select Tested, $2.50.

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Save 25 to 50 Percent

As announced last week, a fire which caused almost a total loss occured June 20, in the building we then occupied. We are now in our new quarters—**191 & 193 Superior St.** (3 blocks north and 1 block east of our old location)—where we have the slightly damaged goods that we have sorted out, and also a stock of

New Lewis Goods at Factory Prices

Any bee-keeper living within a reasonable distance of Chicago can make money on any supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick if you want any of the goods we are selling at 25 to 50 percent reduction.

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the Nickel Plate Road will run an excursion to Chautauqua Lake, N. Y., at one fare for the round-trip ($14.00) from Chicago, with return limit of August 28th, by depositing ticket. No excess fare charged on any train on Nickel Plate Road. Cheap rates to other eastern points. Three trains daily, with vestibuled sleeping-cars. Individual Club Meals, ranging in price from 35 cents to $1.00; also service a la carte and mid-day Luncheon, 50 cents. Chicago City Ticket Office, 107 Adams St. La Salle St. Station, the only Depot in Chicago on the Elevated Railroad Loop.
15—29A2t

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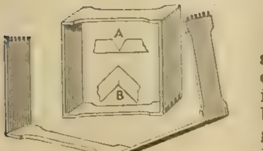
☞ J. G. Goodner, of this State, writes me that "he prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

HONEY-PACKAGES

SECTIONS



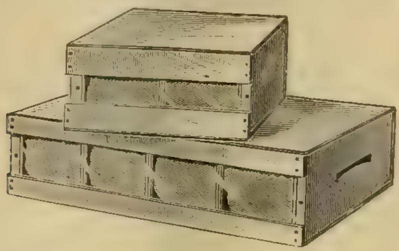
Root's Sections to-day are the result of a decade of actual experience. Thousands of dollars have been spent in experimenting and inventing machinery. The best basswood lumber is used. A system of grading and checking insures only perfect sections being sent out. You cannot err in placing your order for Root's. Prices:

	No. 1	No. 2		No. 1	No. 2
Per 100	$ .75	$ .65	Per 2000	$ 9.75	$ 8.75
Per 250	1.50	1.25	Per 3000	14.25	12.75
Per 500	2.50	2.25	Per 4000	18.50	16.50
Per 1000	5.00	4.50	Per 5000	22.50	20.00

Plain, no-bee-way sections, 4¼x4¼x1½, 1⅝, or 1⅜, 3⅝x5x1½, 4x5x1⅜ or 1½, in lots of 1000 or more will be 25c per 1000 less than prices named above.

NO-DRIP SHIPPING-CASES

Here is a shipping-case that meets every requirement. The best lumber; the best workmanship combined with the best design makes a package for your honey that causes it to bring better prices in the market. Price-list of shipping-cases:

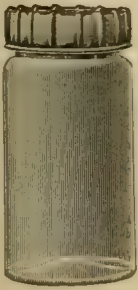


SHIPPING CASES NAME AND SIZE OF CASE	Nailed, each	Price complete, including 3 in. glass 1 side, nails, & paper—in flat.			With 2-inch glass, instead of 3, per 100.	Without the glass, per 100	Wt. per 100—in lbs.
		1	10	100			
12-inch 4-row for 4¼ sections	30	25	2 00	$18 00	$17.00	$16.00	450
12-inch 2-row " "	20	15	1 30	11 00	10.50	10.00	225
8-inch 3 row " "	20	15	1 30	11 50	10.75	10.00	225
7⅛-inch 4-row for 4x5 "	30	22	1 80	16 00		14.00	300

HONEY-LABELS

We print these in large quantities in large or small lots. Over 50 styles to choose from. Prices very reasonable. Ask for our Label Catalog.

SIMPLEX JARS



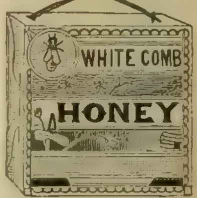
Simplex Honey-Jars (1-lb.)

This is a new jar with glass screw-top and rubber gasket fitted to the taper screw or jar, which seals absolutely air-tight. We consider it the handsomest jar we sell for one pound of honey. Put up in re-shipping cases of 2 dozen jars each, with corrugated protectors.

Price, $1.10 per case; 6 cases at $1.05; 20 cases or more, at $1.00.

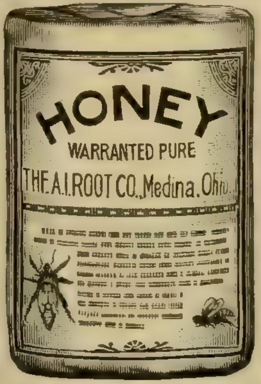
We carry a complete line of honey-jars. Many styles and prices. Be sure to see our complete catalog for description and prices.

CARTONS



The best package for retailing comb honey. Bee-keepers are realizing more and more the value of these cartons for putting their comb honey into marketable shape. Other articles of home consumption are put up in a neat, attractive way, and in shape to be handed to the customer, and carried safely without wrapping. Why not sections of comb honey, especially when the cost of the boxes is so low?

We make two styles coming at different prices. See catalog for prices.


HONEY
WARRANTED PURE
THE A.I.ROOT CO. Medina, Ohio

AIKIN HONEY-BAGS

Our own experience with this bag honey is such that those who know the producer will very often prefer it in this form to any other, especially in winter. The women like it because it is so handy. The bag peels off the honey like paper from a nice roll of butter. When placed on the table with its snowy whiteness, it is enough to make one's mouth water. The children especially like it to spread on their bread and butter.

Capacity	Size	Price of 100	Price of 500	Price of 1000	Wt. of 1000
1-pound bags	3½x5½	$ 65	$ 3 00	$ 5 50	10
2-pound bags	5 x7½	80	3 75	7 00	18
3½-pound bags	6 x9½	1 00	4 75	8 75	28
5-pound bags	7 x10	1 20	5 50	10 50	35
10-pound bags	10x10½	1 50	7 00	13 50	45
Printing name and address extra		30	75	1 00	

Complete Catalog on Application

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*Wetumpka .... J. M. Jenkins

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CHAS. DADANT

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor CHICAGO, ILL., JULY 26, 1906 Vol. XLVI—No. 30

Editorial Notes and Comments

Sections of Honey Can't Be Uniform in Weight

One of the things which has divided opinion for a long time, and which bids fair to divide opinion for a long time to come, relates to the weight of sections and the selling by piece or by pound. One argues the great convenience of selling by the piece; another argues the great fairness of selling by weight. Every little while, some one, to whom the question is new, appears on the scene with what he thinks is a satisfactory solution of the troublesome problem, and says: "The whole thing is easy; just adopt that size of section which shall weigh an exact pound, and then it will make no difference whether the section is sold by the piece or the pound." But when he attempts to produce a ton of honey with 2000 sections, each weighing an exact pound, he finds himself running against a snag.

The great difficulty in the whole case is the difficulty of producing sections of honey of uniform weight, and this difficulty is too often not fully understood, or else lost sight of, by those who discuss the question. The matter is somewhat complex, several factors having a part in it. Let us suppose we have found a section of such size that we think it will weigh when filled just 16 ounces, and let us see some of the things that will interfere with having that weight constant.

Let a colony be badly crowded for room, and the sections will be considerably heavier than when more room is furnished than the bees have any possible use for. This, however, is a difficulty that can be largely avoided by the careful operator.

Bees vary in their characteristics, and 2 colonies, under precisely the same conditions, will produce sections of honey of unequal weight. Careful selection in breeding may produce such uniformity throughout the apiary that this factor shall practically disappear.

At one time in the season, nectar comes in with a rush, at another time very sparingly; with fatter sections in the one case, and leaner in the other. Against this the bee-keeper has no remedy.

Not only is there a diffence between one part of the season and another part, but there may be a radical difference between one season and another—a difference against which the bee-keeper is utterly helpless.

There may be other differences, but these are enough. If the difference in weight between the lightest and heaviest section of honey were only a fraction of an ounce, it might be ignored as unworthy attention. But when a difference of 3 to 6 ounces is found between the lightest and the heaviest sections, and when there is a difference of 2 ounces or more in the average weight at one time and another, as some have said is the case, this matter is one that must be taken into account.

It is not the present object to argue whether it is better to sell sections by the piece or by weight, the only object being to show that to find a section of such size that it shall always weigh an exact pound is one of the things that may be dreamd of, but never attained in actual practise.

Improvement of Bee-Stock

D. M. Macdonald wisely says this in the British Bee Journal:

> If bee-keepers would only spend half as much time over this question as they do over some other things, the whole bee-keeping world would be better off.

Neither does that mean that a few of the greater lights should turn their attention to it; for every bee-keeper with only 5 colonies can make a difference in his yields by seeing that new queens come from his best colonies. And as has been heretofore shown, he may do no little in this direction without ever seeing a queen—even with box-hives.

Economizing Apiary Ground-Room

It is often desirable to have hives as close together as possible for the sake of saving room, and always desirable for the sake of saving travel from one hive to another. By putting the hives in pairs, the two hives of each pair so close as to be almost touching, 60 percent more can be put on the same ground without increased danger of bees, and especially of virgin queens, entering the wrong hive. In Gleanings, E. F. Atwater offers a plan to help still more against this danger. It is to have the alternate pairs at different heights; the first pair on a low stand, the next 12 or 18 inches, and so on.

Sweet Clover on a Large Scale

In the following communication from W. H. Mills, of Nebraska, he mentions as a disadvantage that the plant is a biennial, hence there is a year's waiting for the nectar, no bloom appearing the first year, the plant dying root and branch after blooming in its second year. Some have practised after this fashion: Sow sweet clover with oats, getting the crop of oats to pay for the land while the sweet clover is making its first year's growth; let it alone the second year, then plow up and sow oats the third year, and every alternate year thereafter. The first year will be the only seeding with sweet clover, as it will self-sow thereafter. There would be no difficulty in land like that of Mr. Mills, which does not heave in winter, but in some soils it would be necessary either to roll the ground very hard or to bury the seed deep. But here is what he says:

> I make no use whatever of catnip except for the bees, and only grow it about the fences and hedges, and in a small way in the fields.
>
> Sweet clover can be used for hay, and makes splendid hay, but does not get made into hay on this place for lack of time to do it.
>
> I had 40 acres seeded in sweet clover, but some of it is so thin a stand that I am plowing it up, and shall reseed this fall. Our soil never heaves, as it is sandy.

Catnip has an advantage over sweet clover—it blooms every season, and does not die and have to come again from seed as the clover does. The clover must make one season's growth, and then it will bloom the next; in other words, it is biennial, and you only get a bloom every second year.

I think the very best way to get a good stand of sweet clover is to scrape the seed together with about half an inch of the surface soil from an old field of sweet clover, and scatter it all together in that way. The new seeded plot gets the bacteria into the soil at the same time it gets the seed.

It is my aim to get in a few more acres of the sweet clover each year until I have in 100 acres, and it will be solely for the honey. But it is also of great benefit to the soil, and not the least trouble to get rid of when you want to use the land for something else. If the people down in Dixie, when they turn out an old worn-out field to rest and recuperate, would seed it with sweet clover, it would be fertile again very much sooner then to let it grow weeds and brush.

There are no signs of foul brood as yet, and I verily believe that it was caused wholly by the salt and sulphur. I know it is hard for a doctor to believe that disease can be cured without a doctor's medicine, but I think it has been done, and I think it will keep all colonies clean and healthy, to keep the bottom-boards covered with salt and sulphur.

W. H. Mills.

A course of sulphur and salt can do no harm; but if readers of this Journal find foul brood appearing in their apiaries for the first time, they are not strongly advised to place entire dependence upon sulphur and salt.

Miscellaneous News-Items

Louis H. Scholl—in charge of the "Southern Beedom" department of the American Bee Journal—was married June 21, according to the following paragraph:

> At the home of the bride's parents, Mr. and Mrs. William Froelich, last night at 8:30 o'clock, Rev. G. Morhinweg performed the ceremony uniting in marriage Miss Emmy Froelich and Louis H. Scholl. The wedding was a pretty little home affair and was witnessed only by relatives of the contracting parties. The bride is one of New Braunfels' most popular young ladies, while the groom is one of the best known young business men in this section.

Heartiest congratulations to Mr. and Mrs. Scholl. May their years of wedded bliss be many, and their happiness increase as time goes on.

* * *

A Visit to Dr. Miller's, at Marengo, Ill., was again made this year on July 4th by "Ye Editor" and wife. It was a most beautiful day, which gave better opportunity than last year for taking pictures. On the first page we present 4 of them.

Dr. Miller is now running two apiaries, one at home and the other an out-apiary 3 miles away. There are 160 colonies in the two yards. Although there was an abundance of white clover in bloom, the bees had gathered nothing more than a mere living for themselves. The basswood trees were just coming into full bloom when we were there, and the bees were humming on the blossoms, which made each tree sound like swarming-time. The Doctor said that the basswood bloom this year was the fullest he had ever known. The row of trees numbering about a dozen, shown in the picture on the first page, is along the north side of the driveway (leading from the main road to the house in which the Doctor and his family live), being about 20 rods in length. The basswood trees were something like 30 years old, and the largest about 15 inches in diameter a foot or two from the ground. The basswood is not a rapid grower, but it is a very fine tree for beauty, for shade, and often for honey.

The milkweed was also in full bloom when we were there, and the bees were working quite thickly on it. There is a peculiarity about the pollen of the milkweed that is very disastrous in its effect on the bees. It seems to be so sticky that when the bees touch it with their feet it holds them, or, in case they are able to pull away, a little of the brown pollen sticks to their feet. We found many blossoms where the bees were unable to get away, and had died there. In fact, one or two of the blossoms shown in the picture had several dead bees attached to them. Of course, they were too small to appear in the engraving. Almost every summer, about this time, some bee-keeper sends us a sample of bees with the small pollen-masses of the milkweed attached to their feet, and desires to know what it is. We received such a sample a day or two after returning from visiting Dr. Miller. We do not recall now just where it came from, but it was the real thing, as we have mentioned. In a locality where there is much milkweed bloom undoubtedly many bees are lost during its blossoming period.

The sweet clover was in the height of its blooming on July 4th, as is plainly shown by the pictures. There is quite a lot of it growing along the roadsides in Marengo. The sweet clover with Dr. Miller standing in it was only 3 or 4 rods from his house, and some of it was 7 feet tall.

Dr. Miller still continues to be the leading writer on bees and bee-keeping, although in his 76th year. His health is better now than it has been for several years. Miss Emma Wilson is still his assistant in the apiary, although during this poor season there hasn't been so very much to do either for the chief or his assistant, unfortunately.

We arrived in Marengo on the evening of July 3d, and returned to Chicago the next evening. A day with Dr. Miller and family is surely a treat. At least two Chicago people appreciate the privilege of spending such a day.

* * *

Mr. Orel L. Hershiser's Little Boy, 1 year and 10 months old, set his clothes on fire in exactly the same manner as did his little sister last winter. That is, he struck a match which he got from what was supposed to be a place out of his reach. After the accident of the little girl his parents dispensed with ordinary matches and adopted the safety ones which require the box to strike them on. Every precaution was even then taken to keep them out of the reach of the children, but the little boy pulled them off a high stand which had a pin-cushion with a fringe hanging therefrom that he could reach. He had seen his elders light matches on the box, and so of course he wanted to imitate them. Fortunately his papa was in the next room, and, on hearing the little fellow crying, ran to him and soon extinguished the flames, but not in time to prevent a bad burning of the hands, neck, ears and face. Fortunately, however, there will be no scars, as the burns were not very deep.

It is strange that both of Mr. Hershiser's children should suffer from a similar accident. But all will rejoice with their parents that the little ones were not lost through the burning.

* * *

Hon. Eugene Secor, of Forest City, Iowa, has kindly sent us a souvenir postal card, reproduced herewith, which was sent to him by Frank Benton, from Baluchistan.

Avenue approaching the Club Quetta, Baluchistan.

When sending the card, July 9, Mr. Secor wrote as follows concerning the prospects for honey in his locality:

> Bees have not been doing very well here this year up to the present time. White clover seems plentiful, and basswood is just opening. The bees were mostly in a starving condition at the beginning of white clover bloom, and unless they were fed up they were not in the proper condition to take advantage of it.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Contributed Articles

The Relations of Insects and Flowers

BY G. M. DOOLITTLE.

PICKING up a paper lately, I ran across these two sentences: "Honey is a vegetable production, appearing in greater or less quantities in every flower that nods to the breeze or kisses the bright sunlight. It is secreted in the flowers for the purpose of attracting insects, thus securing the complete fertilization of the female blossom." In another place in the same paper I found this: "Pollen is borne from flower to flower on the breeze as well as on the bodies of insects; in fact, that seems to be nature's prime method of carrying or conveying the fertilizing germs from the anthers of the staminate to the pointals of the pistillate blossoms." And this paper is considered as an authority when treating on plants and flowers.

I do not deny that there is truth in both of the quotations, but there is enough of untruth in both to mystify the unwary, as is always the case where anything is told that is part truth and part falsehood. When we apply these quotations to certain plants and trees they are not true; neither is it true that "every flower that nods to the breeze secretes nectar." There are some points in this matter which either myself or others fail to understand, and as it has a direct bearing on our beloved pursuit—bee-keeping—perhaps an article to draw others out, so that more light may be obtained, may not be amiss; especially as knowledge along this line will help bee-keepers to disarm the jealous who seem to think the bees are injuring them by taking sweet from the flowers which bloom on their possessions.

I understand that the first purpose for which the honey-bee was created, was for the fertilization of the flowers, while the storage of honey was only for the preservation of the life of the bee, so that the perpetuation of the species might continue for their purpose (the fertilization of flowers); that man, after a period of time, found that honey was good to eat, and thus utilized the product secreted by the flowers and stored by the bees; man using the honey as his food, while the bees perished from such colonies as were robbed by man; that, as the years went by, man learned that the bees would store more honey than their wants required, so surplus apartments were furnished the bees, which were removed when filled, thus leaving enough honey in the hive or home of the bee to supply all its needs; and from this surplus came the honey of commerce, and our industry of apiculture.

If I am correct in the above, and I fully believe that I am, the people of the world have the bee-keepers to thank for bringing the bee from its primeval home (the hollow tree, especially as our forests are fast becoming obliterated by the advance of civilization), and scattering it broadcast throughout the land, to fertilize the ever-increasing millions of flowers (increased through the increased acreage under cultivation each year), which would otherwise be unproductive in fruit.

But to return to the two paragraphs quoted. While I believe that the bees were created for the fertilization of flowers, yet I also believe that not over one-half of the different species of plants and trees require the aid of the bee to fertilize their flowers, and that only those which require the aid of the bee secrete any nectar; hence I said that it was not true that *every* flower secretes nectar. In this we see the wisdom of the Creator—bees created to fertilize the flowers which could not be fertilized in any other way, and nectar placed in these flowers to draw the bees to them. Thus we have the clovers among grasses secreting nectar, while the timothy, orchard, june, red-top and other grasses do not secrete nectar, for they are capable of being fertilized by the "breeze."

All the fault I have to find with the second quotation is, that it is represented that both the breeze and the bees may be needed to fertilize the same and all plants; while I believe that plants and trees which can be fertilized by the breeze, do not need the aid of the bees; and that those requiring the aid of the bees cannot be fertilized by all the breezes that ever blew. To be sure, bees sometimes collect *pollen* from many flowers which do not require their aid; but as I said before, *nectar* is secreted only by those which do.

Take the flower of the squash for instance: Gregory, who is certainly good authority, in his treatise on this plant, tells us that squashes can only be fertilized by the aid of the bees and other insects, and proves the same by giving experiments tried where fine netting was placed over the female flowers on certain hills, when not one of the flowers thus treated produced a squash; while the hills not so treated gave a good crop. Any one looking at a pumpkin or squash flower will at once come to the conclusion that it is impossible for the wind to carry the pollen from one flower to another; hence we find it secreting nectar to attract the bees.

Prominent among this class of flowers which needs the bee to fertilize them, and secrete nectar for that purpose, we have the clovers, fruit-trees of all classes, willow, hard maple and basswood or linden trees, buckwheat and many of the fall flowers. Of the class that does not need the aid of the bee I will mention grasses of all kinds growing in this locality, except the clovers, grains of all kinds (except buckwheat), and many of the trees of the forest, such as beech, birch, ash, chestnut, butternut, etc., none of which produce nectar, either in a "greater or less quantity," no matter how nicely they may "nod to the breeze, or are kissed by the sunlight."

In the above I have given my views regarding this matter, and stand ready to be corrected by any one who can show that I am wrong. I am no botanist, therefore cannot give a scientific article on this subject; but if there are any botanists among the readers of the American Bee Journal, myself, and I think all of its readers, would be pleased to hear from them on the subject. Borodino, N. Y.

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How to Prepare for the Honey-Flow

Read at the last Illinois State Convention

BY J. E. JOHNSON

This is a subject on which many bee-keepers differ in opinion, but I will try tell how I am able to obtain the best results in building up or getting colonies strong in spring, so as to be ready for the honey-flow.

First, let me say that if a colony is just fairly strong in young bees, with all the brood in the hive that they can take care of, and only a few field-bees, they are not ready for the honey-flow, but they should have a large force of bees over 15 days old. From close observation I find that in a good honey-flow bees that are only 15 days old will begin as fielders. We should also have many younger bees to build comb and do other indoor work. When we do give attention to this matter we often find that the hives do not become well filled with bees until the honey-flow has been on for some time, and thus we lose a good share of our crop, and get our bees strong about the time the honey-flow closes; thus the field-bees become consumers instead of producers.

In the spring, in my locality, the soft maples that grow near the water's edge along the river begin yielding pollen during the last part of March or first of April. After the maples is the elm, then red willow, box-elder, wild gooseberry, wild plum, Japan plum, and pears, then cherries, apples, and last of the tree fruits is the wild crab-apple; then raspberry, blackberry, and last, white clover and basswood. Now if we could have fine weather during all this bloom my bees would need no tinkering with at all, as they would be in fine shape to take care of the honey-flow; but nearly every year I find that we have so many bad-weather days that often the bees can only work on this early bloom a part of the time, and thus they do not build up to strong colonies as they should. So I try to produce artificially, as near as I can, the same results as though the weather was favorable. This I do by stimulative feeding, and although I am aware that I am treading on dangerous ground, I will explain how I do this.

Dr. Miller has been asked the question, "Shall I feed to stimulate brood-rearing in the spring? and shall I spread the brood?" His answer was in this wise: "Stimulative feeding and spreading brood is a pretty safe thing for a beginner to let alone;" which is no doubt true, but I would answer it in this way:

Stimulative feeding is important, and brings good results *if properly done;* but spreading brood in the spring should never be practiced, as it nearly always results in harm. If bees are fed properly they will spread the brood as fast as they can cover it to keep it warm.

My hives all face the east, and in winter and spring they are covered with four thicknesses of newspaper on all sides except the front of the hive. It is very necessary that the hive be warm during cold spring winds. I use an empty super over the brood-frames which contains clean rags, cloths, carpet, or anything that is clean and warm. I feed only at dusk in the evening, and feed only sweetened water, using about ¾ luke warm water and ¼ honey or sugar, and never begin feeding until maples are in bloom.

I use an atmospheric feeder, which is made by punching small holes in the *edge* of the cover of a pint Mason fruit-jar, or jelly tumbler. This feeder I place upside down on a little block on the brood-frames under the cushion or cloths. If a Mason jar is used, 2 empty supers are required, as one is not high enough; but usually I use jelly tumblers, and for ordinary colonies that have considerable honey in their hives I consider one tumbler full enough at one feed; but if they are a little short of honey I give them a full pint.

When the day has been warm, and they have been gathering pollen freely, they are not fed at all, unless they are short of honey.

The reason I feed sweetened warm water thus is as follows: It does not tax the strength of the bees to the extent that it does for them to fly out in the cold wind and sip the almost ice-cold water from the puddles on the ground. Bees carry lots of water in the spring to be used in rearing brood, and I am satisfied that each colony loses many—perhaps thousands—of bees that become chilled by carrying cold water; not only so, but the temperature of the cluster of bees in the hive is lowered, and thus the brood becomes chilled.

Some bee-keepers claim that feeding causes bees to fly out more in cold weather, but I find that when I feed as above described they do not. They may buzz around in the morning, but if they have a supply of warm sweetened feed the evening before, they soon become satisfied; while colonies suffering for water will send a lot of bees for water, and thus they dwindle. Any practical bee-keeper can readily see that a few more bees reared in early spring, and a few saved from becoming chilled, will mean many more bees later on when they are so much needed. And if many more are reared, and many saved, a very strong colony at the beginning of the honey-flow will be the result.

There is one more point I wish to mention, which is this: When a colony of bees are fed every evening when the day has not been favorable, they have a continual income of food, and brood-rearing will be steady, and not spasmodic. Not only so, but the bees will evaporate this sweetened water to some extent, and their continual activity will cause the queen to become more prolific in her egg-laying.

Now I doubt not many bee-keepers will say that a tumbler of sweetened water would not amount to much, but I find bees should not be fed much, but just enough to supply water for the brood, and have continual work.

Three years ago I succeeded in getting 250 pounds per colony on the average, ¾ of it being comb-honey, and I increased my colonies 400 per cent, notwithstanding they were very weak in the spring. I have some neighbors who are pretty well up-to-date bee-keepers, but they did not feed in the spring, and none of them averaged 100 pounds per colony.

Some bee-keepers will say that if you succeed in getting your colonies in a very flourishing condition, they will spend their time in swarming, and not in gathering honey. Let me say that such is sometimes the case, but if you succeed in getting very strong colonies the swarms will be large, and if manipulated properly, they will gather lots of surplus honey.

If white clover is abundant and shows signs of profuse blooming, or if basswood trees show signs of abundant bloom, I give first a super of shallow frames—combs if I have them—and let the bees use them for brood-rearing until the beginning of the honey-flow. This will prevent the swarming fever, to considerable extent.

I have had new swarms, when they were very large, to fill 60 sections in less than 2 weeks; but of course not cap them all.

A colony of bees gather at least from 100 to 200 pounds of honey annually to keep up brood-rearing, and for winter stores, even if we get no surplus; and if I have a clover or basswood honey-flow, with plenty of bees in each colony as fielders, it won't take long to get an extra 100 pounds of surplus honey per colony. Williamsfield, Ill.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Strong Colonies

This season has impressed upon me more strongly than ever the absolute necessity to insure sucess of having colonies *strong*. With many of us the very mild winter of 1905-06 was extremely trying on cellar-wintered bees. Consequently some of the colonies came through the spring in a weak condition. These have been almost at a standstill ever since. While strong ones have gained tremendously and stored some surplus, medium ones have built up strong, but have stored nothing, and weak colonies are weak still.

The questions arise, Why is the great difference in strength of colonies? For how much are the queens to blame? To get at this matter more carefully, I have not practised equalizing brood at all this year. If a queen is poor or failing, I see no object in bolstering her up at the expense of a good queen. Her work is watched from week to week, and if she does not gain—if the brood-chamber assumes that honey-bound appearance so indicative of a poor queen—off comes her head.

Ontario Honey-Crop Reports

This department will be glad to receive, short, post-card crop reports from all parts of Ontario. Those received already are not very encouraging. Norfolk County reports no white honey in the south, owing to continued dry weather in the spring. North Norfolk has some surplus, but very little. Brant County seems about the same.

H. G. Sibbald, of York County, has about 25 pounds per colony.

R. H. Smith, of Elgin County, has about the same, and Wm. Couse, of Peel County, is no better off.

J. R. Colman, of Middlesex County, can report nothing better.

Since writing the above the following reports have come in, and are monotonously bad:

Martin Emigh, of S. Oxford—"No clover."

B. Davidson, of Ontario County—"Failure all through."

W. H. Bowen, of Niagara Falls—"Failure; will have to feed for winter."

Edwin Dalton, of Halton—"Clover very light; basswood prospects good."

J. F. Davison, of East York—"Nearly total failure."

J. J. Hurley, of Brantford, sends the best report I have received yet. He expects 50 pounds per colony.

Jas. Jack, of Haldimand—"Bees doing nothing."

M. B. Holmes, of Leeds County—"Failure."

C. C. Farran, of Farran's Point, on July 11—"Bees are working well these 5 or 6 days on white and sweet clover; have had but 1 swarm yet; supers are about half full on about one-third of the colonies."

J. B. Hall, of Woodstock, reports very little honey, and excessive swarming.

Chris Grimalby, of Owen Sound, says the season is very poor.

John Fixter, of Ottawa—"No prospect for any white honey—clover all winter-killed. Basswood loaded with bloom, but no honey. We are sowing a few acres of buckwheat with the hope of a fall flow."

W. H. Kirby, of Ontario County, June 10—"We had a very favorable fruit-bloom, and got some half-depth supers of apple honey. When apple and dandelion played out, the queens stopped laying, and colonies were none too strong when raspberry bloomed (which is our principal crop), and some white clover. Bees have been working on white clover the last few days. Will have a half crop or more. Can't tell just yet."

Who said raspberry-bloom in Michigan? We have it right here in Ontario. The fact that Mr. Kirby's queens stopped laying after fruit-bloom points rather forcibly to the necessity of stimulative feeding, even when there is honey in the hives.

J. L. Byer, of York County—"Conditions just the same as with you. Rain nearly every day for 5 weeks. No honey in clover, even when we have a little sunshine."

Not just the same, Mr. Byer. We have not had enough rain—but very little honey, just the same.

Slipshod Bee-Keeping—Who is to Blame?

It was the writer's privilege to make a small purchase the other day in a bright, attractive grocery store in one of our Canadian towns. Floors, counters and shelves were clean and shining. The office fixtures at the back were of the most approved style. The goods, almost all in colored packages, were arranged in a way that showed good taste in display.

But, alsas, there was a blot. One object marred the whole picture. There was one dozen sections of honey, well-filled, but terribly travel-stained and not scraped, in a basswood case whose soiled appearance bore testimony of years of service. Who is to blame for this reproach on modern honey-production? Is it the grocer who does not keep such an unsightly object hidden under the counter, or the bee-keeper who allows his goods to go on the market in such slipshod fashion?

Do not let the reader think there is any personal reference in the above. Such honey can be seen in almost every town in Ontario. More's the pity. How can we expect a growing demand for such stuff? Less wholesome goods, put up in more attractive dress, are sure to win out against Nature's purest sweet.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Piping of the Queen—Finding Queens

Dear Miss Wilson:—I have not asked a question for a long time. I may ask you several.

On June 13, I had a large swarm issue from my only Italian colony. The swarm would fill a water-pail and they clustered very conveniently low on a young cherry-tree on the lawn. After hiving the swarm on the old stand and moving the parent colony I at once examined the condition of the latter and found a lot of queen-cells. On 1 frame were 5 fine cells, and as I had thought of giving a new queen to a couple of weaker colonies, I decided to replace the frame with the 5 cells till I could read up a little and think it out by myself when I was not rushed. All other queen-cells I cut.

The next day I went to that hive with the intention of cutting out all but 1 fine cell, and was a little surprised to see 1 cell empty, and on opening the hive I imagined—yes, I was sure—I heard the young queen piping. I have read a good deal of the piping of a young queen, and was not a little anxious to know the experience. On opening the hive I very clearly heard a sound similar to this: "we—we—we—," in a high pitch. Was I right? Was it the young queen? I was so sure, that I at once cut out all the rest of the queen-cells.

The weather since has been very cold and it has rained nearly every day. I opened the hive this morning and still no eggs or young brood? Should I be alarmed? Did I make the colony queenless, do you suppose, in my ignorance, or has the queen not been mated on account of bad weather, or possibly lost?

This same colony last year was not satisfactory. In the first place in transferring it I killed the queen, and did not discover it for 21 days, when I took away the old combs. Then I sent away and got a pure Italian queen. All summer they sulked, and while the colony became good and strong for winter and gathered a lot of stores for its own use, it only stored about one pound for me. But you never saw such a job of propolizing. All the sections looked as if they had been pasted full of old-fashioned spruce-gum. The sides of the hive and top of the frames were worse than the sections. But the bees wintered well. I do not think I care for any more Italians.

My hardest problem now is to be able to find a queen quickly. I have asked you this question before, and did just as you told me, but it seems almost impossible for me to find a queen. Perhaps my eyes are not sharp enough. At any rate it bothers a good deal. At times when I want to give a k colony brood and bees from a strong colony it is of course very necessary to be sure not to take away the queen. On account of not being able to find her readily I am always afraid to do this.

(Miss) Elsie A. Cutter.

Grand Rapids, Mich., June 22.

Yes, you were all right in thinking that the "we—we—we— sound in a high pitch" was the young queen piping, although generally the note of a piping queen is represented by "peep—peep—peep," or "zeep—zeep—zeep." Had you caught sight of her, you would have seen a peculiar motion of her body as she made the sound.

The swarm issued June 13, and 9 days later (June 22), you seemed disappointed not to find the young queen laying. Don't you think you were a little exacting in expecting a queen to lay so young? Usually the young queen in the mother colony does not begin laying until she is about 10 days old, or about 17 days after the issuing of the prime swarm. But in your case things were hurried up, for the queen was piping the next day after swarming. Very likely that was because the bad weather had hindered the issuing of the swarm. In any case she was probably not more than 8 days old the 22d, and the bad weather might make it several days after that before she would lay.

Don't condemn all Italians because that one colony was so active in the "spruce-gum" business. Italians are not especially bad at propolizing.

When you want to take away a frame of brood and bees, it is not absolutely necessary to find the queen. Just select the frame or frames of brood you want, shake or brush off *all* the bees, put the brood in an empty hive-body, and put this over the colony, with an excluder between the stories. Two or three hours later the brood will be covered with bees, when it can be taken away without fear of taking the queen. One advantage of this way is, you will have nothing but younger bees, with less danger of fighting when put in a strange colony.

If you want to use several frames you can make a wholesale job of it. Take as many frames as you want and put them into an empty hive-body. Now set this over an excluder on a strong colony that has been drawn from. By the way, this is an excellent plan to form a new colony. Just take this upper story, after it has had time to be well stocked with bees, set it on a new stand, give a queen-cell, or a queen, in a provisioned cage, and there you are. The bees act much as queenless bees, and very few of them will return to the old colony.

Snakes and Bees—"Hybrid" or "Cross"

Dear Miss Wilson—I find no report of snakes troubling bees, but at least mine were annoyed, for they killed a half dozen or so. Some of them were very dark on the upper side, and salmon-pink or copper-colored on the under side. What kind of snake was it, and does it do any damage?

There seems to be more or less discussion over the use or misuse of the term "hybrid," and being a "tenderfoot" (1905 was my first season). I would like to ask the difference between a "cross" and a "hybrid." My dictionary doesn't give any.

Osceola, Wis., June 12. BEE-FARM.

Snakes are not supposed to do any damage to bees. We have found them curled up in our hives a number of times, but they didn't seem to be doing any harm. I don't know what kind of snakes yours were.

A mixture of Italian and black blood makes a "hybrid" or "cross." The two words mean the same thing, although it seems a pity that the word hybrid ever came into use with that meaning.

Bees Rolling in the Honey

I am getting some honey. Bees are in fine condition, and are rolling in the honey for me.

Littleton, N. H., July 5. (Mrs.) F. M. GLESSNER.

They say, "Misery loves company," and we are getting no honey; but in the present case we are glad to forego even such pleasant company as you, Mrs. Glessner, and heartily congratulate you on your good harvest.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Bee-Products in Arizona

The following is clipped from circular No. 48, "Timely Hints for Farmers," of the University of Arizona Agricultural Experiment Station, and contains many items of interest. To "us Texans" it is interesting to note that the first colonies of Arizona's bees came from our grand State. The notes on the honey-plants and their yields have been of especial interest to me, since much of my time was devoted toward getting up an herbarium of Texas' honey-yielders. Here is the Arizona matter:

It is stated by Indians and white pioneers that the honey-bee was unknown in Arizona until American occupation. The first colonies probably drifted in from Texas with adventurous settlers not long before the middle of the last century. In 1878 John B. Allen brought a number of colonies to Tucson from California as a business venture; while in Salt River Valley bee-keeping began early in the '80's.

The last census enumerates 18,991 colonies in the Territory June 1, 1900, with a product during 1899 of 930,420 pounds of honey, and 13,080 pounds of wax, having a total valuation of $67,489.

The sources of our honey are the desert flora and cultivated crops, chiefly alfalfa. A few of the principal producing plants and their seasons are as follows:

	Time of Blooming.
Mesquite (*Prosopis velutina*)	April–July.
Screw bean (*Prosopis pubescens*)	April–July.
Catclaw (*Acacia greggii*)	May–June.
Acacia (*Acacia constricta*)	June.
Paloverde (*Parkinsonia torreyana*)	May.
Desert flora (*Miscellaneous*)	Depending upon rainfall.
Alfalfa (*Medicago sativa*)	April–September.

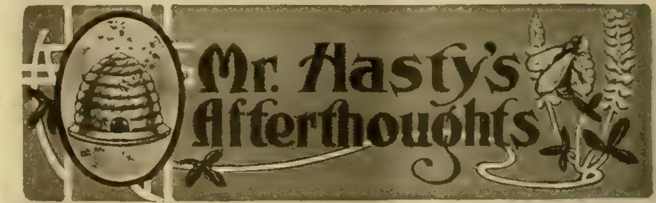
The wild honey-plants, because of grazing animals and of wood-cutters, have greatly decreased within recent years. The area in alfalfa, on the other hand, is constantly increasing; but without a corresponding increase in honey-producing power. This is due to two principal causes: Farmers are now cutting alfalfa for hay at a much earlier stage in its growth than formerly, not allowing the plant to come into full bloom; and the alfalfa butterfly (*Colias eurytheme*) has so increased in numbers since 1895, that the honey-flow, which used to continue well into September, is now cut short in July. It is difficult to state the net effect of these changes upon the producing power of the country as a whole; but in Salt River Valley under present conditions, judging from the shipments made during the last few years, our present irrigated areas, with adjoining desert tracts, are pretty fully stocked with bees. Other parts of the Territory are as yet less thoroughly occupied.

The quantity and character of the nectar produced by representative honey-plants are of interest in connection with the amount and quality of honey producible within a given territory. The following results were obtained by selecting typical plants or areas, estimating the number of blossoms, and determining the sugars in samples of average flowers:

Variety of Plant	Dimensions	Total No. of blooms	Sugars in each bloom		Calculated to honey (18 per cent water) produced by plant
			Cane	Invert	
			mgs.	mgs.	
Mesquite (Prosopis velutina)	15 ft. high, 30 ft. broad	50,000	5.7 4.8	9.1 17.0	2.53 lb. in 1 medium tree
Catclaw (Acacia greggii	6 ft. high, 10 ft. broad	15,000	.4	8.4	.36 lb. in 1 medium bush
Acacia constricta	9 ft. high, 12 ft. broad	70,000	.17	1.9	.39 lb. in 1 large bush
Alfalfa in full bloom	1 square rod	50,000	.36	2.2	55.9 lb. in 1 acre

The figure for alfalfa is especially interesting and corresponds roughly with such farmer's estimates of yield as "a can of honey (60 pounds) to the ton of hay." Invert sugars are seen to vary from 1.6 to 21 times (averaging 8.6 times), the amount of cane-sugar present in the flowers.

The quality of Arizona honey varies with its source as well as with its treatment and preparation for market.



Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

Wax-Extracting Methods

Bully for him! F. Greiner proposes to have a large and excellent solar wax-extractor, and deliberately sacrifice the confessedly large amount of wax which the solar will not get. Cause why? He finds a day of hard and disagreeable work only gets out 3 runs of 5 pounds each; and decent pay for such work would take a lion's bite out of what it brings. *Cheaper* to waste a third of it. Some years my practice has been to run pretty much everything through the solar and *keep* what remains—worms do not seem to work in it after such a heating as it gets—then the accumulation of years can be re-treated at once. But his scheme to have all difficult material rendered on shares by a common establishment run by an expert, that scheme will fail, I reckon. Wouldn't if all brethren were like him (or like me) but fail because so many have exaggerated ideas about how much wax is in a pound of dirty old comb. In other words, patrons (without intending to be hoggish) would want for their share all the wax, and more, too. Page 485.

Floats for use in Feeding Bees

Coverdale, in speaking of his big feeder made with oilcloth and an empty super (as nearly all writers who get on the same ground) makes rather light of the difficulty of the bees getting drowned. I have wondered some why a difficulty so provokingly insoluble to me seems to be so trifling to others. Hard for me to find a satisfactory float for bees on honey—or on water, either, for that matter. When the float seems to the keeper's eyes to be all that can be desired, bees will still get daubed and killed by their careless rushing around, and by piling onto one anothers' backs. Some floats soak up too much honey, some have far too little hold-up power, some call for too-muchee everlasting fuss—fuss to get the surface covered properly and none of the material sprawling and sprangling outside; some get sour or corrupt too easily, and nearly all make too much after-daub to clean up things. I have been giving grape packing of cork a high place—but perhaps that's only because I never used it. Floats for water mostly get water-logged and sink after a few days' use., Even while they float, often the upper surface is so communicative of wet that bees on cold days suffer. Page 501.

German Full-Depth-Cell Comb Foundation

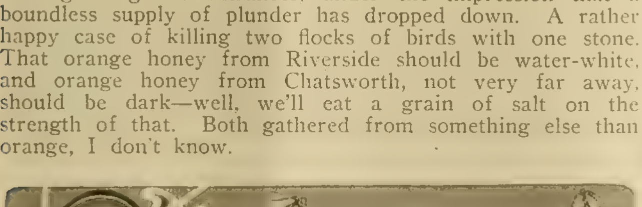
Prof. Cook on page 502 is not quite definite enough to satisfy me. It's one thing to make a little foundation with cells full-depth just to show what can be done and quite another thing to produce it commercially cheap enough for use. Whether or not Otto Schultz has such wonderful foundation for sale (page 502) don't enable me to "sabe."

Keeping Choice Bees from Getting Mixed by Banishing Drone-Comb (?)

I've howled several times, and 'spects I must howl many times more, against the doctrine Dr. Miller doses New York with on page 489. This child wants to keep some choice bees from getting mixed, and is deluded with the vain hope that banishing drone-comb from undesirable colonies will suffice. Awfully insufficient. Practically, you can't keep a rousing colony of bees from rearing *some* drones if they want 'em. And the few they do succeed in getting *will do more mischief—meet more queens—than ten times the number of ordinarily-reared drones would do,* on account of being pampered and treated at home much as the queen is treated. This is the straight truth (as it seems to me) on a rather important subject. I think that apiarian children *usually* accomplish just the opposite of what they intend in their efforts to suppress certain drones—did exactly that myself when I was a child.

Returning Swarms—Orange Honey

C. W. Dayton's article on page 503 has more cuds than one for us to ruminate. His style of returning a swarm is particularly worthy of thought. (1) Take away their queen. (2) Keep them prisoners awhile. (Wish he had named the approximate number of hours.) (3) Let them fly home *gradually*. Extracting time sometimes is robbing time as well. To keep robbers from pouncing upon dauby emptied combs he has them strongly perfumed with carbolic acid. (Vapor only, I understand.) Fumes gradually disappear and do no harm to the colony to which the combs ar given. But it keeps them from making fools of themselves, and ceasing to guard entrances, under the impression that a boundless supply of plunder has dropped down. A rather happy case of killing two flocks of birds with one stone. That orange honey from Riverside should be water-white, and orange honey from Chatsworth, not very far away, should be dark—well, we'll eat a grain of salt on the strength of that. Both gathered from something else than orange, I don't know.



NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 622.]

Dr. Eaton, of Chicago, then addressed the convention as follows, on,

DIETETIC AND HYGIENIC RELATIONS OF HONEY

The paper that I have prepared is perhaps of more value or interest, or was prepared more for the general public than for bee-keepers, because I suppose all of you are wise enough to use plenty of your own product; in that respect being different from the dairy farmers of Holland, who sell their fine, high-priced butter, and import *oleomargarine* for their own use. I hope it will have some interest for bee-keepers.

Food-stuffs are divided into three great classes, protein, fat and carbohydrates. Honey belongs to the carbohydrates. On a strictly scientific basis standards have been prepared showing the amount of each of these food-stuffs a given animal doing a given work should consume. Using Atwater's standards, we find that if honey supplied all the fuel except that derived from protein, a man could eat two and eight-tenths pounds, or in round numbers, 3 pounds of honey per day. This is using strictly the amount of food necessary to maintain man in perfect health as determined by scientific experiment. As a matter of fact, it is probable that a smaller amount of protein in connection with carbohydrates will suffice for body maintenance.

A late investigation by H. Labbe, shows that a healthy man may maintain nitrogen equilibrium on from 1 to 14 grams of nitrogen per day—an amount much less than required in Atwater's standards. Luigi Cornaro, a Venetian nobleman, lived to a ripe old age, subsisting during the last 50 years of his life on less than 12 ounces of solid food a day, and a part of the time on but one egg and a bottle of wine a day. Edison, the inventor, recommends food reduction, and claims to have subsisted for a time on 12 ounces of food a day.

If less protein were employed in the diet, more honey could be used. Of course, it might not be practical to replace all fats and carbohydrates by sugars for an indefinite period, as nature has provided means for the digestion of fats and starches as well as sugars. However, *this* is undoubtedly true as regards the substitution of sugars for fats and starches:

(1). That sugars are more quickly assimilated than any other food, and the energy derived therefrom is more immediately available. For this reason sugar in the form of candy is employed in army dietaries, and especially in emergency rations. Queen Victoria's present of chocolate candy to the British soldiers in the South African War was more than a demonstration of her affection and gratitude; it was an illustration of applying the discoveries of science to practical use. Honey might be used much more freely than at present in soldiers' rations.

(2). The digestion of sugars is performed at less expenditure of energy than other foods; in fact, some sugars are immediately and in natural form taken into the blood. Glycogen, the emergency food of the body, manufactured and stored by the liver, is itself a sugar. Sucrose merely requires splitting into dextrose and levulose. Commercial glucose and honey is practically predigested. Milk-sugar is so easily digested as to be nature's food for the young.

(3). Sugars increase the flow of saliva and other digestive ferments, or more properly speaking, "enzymes," and thus stimulate appetite and aid the digestion of all food. It was once thought that the rapid assimilation and muscular activity shown on feeding sugar was due to this stimulation, but experiments substituting dulcin, saccharin and other sweet substances devoid of food value for sugar, proved that such was not the case. The influence of sugar on the digestion of other foods is, however, a strong argument for the generous use of sugars in the dietary.

(4). Sugar as pure sucrose or as honey is a most concentrated food. Sugar contains practically no water, mineral or other non-digestible impurities, and will keep in perfect condition in any climate.

(5). Sugar is even an economical food. The cheaper varieties of candy, such as stick candy and those so freely advertised at 15 cents a pound, and honey at almost any market price, may displace many carbohydrates and fats at an actual monetary saving. Butter fat, olive and other oils are more expensive, and so are the fats in high-priced meats and poultry. Many vegetables, especially out of season, although greatly inferior to sugar in food value, commanding more than 15 cents a pound, however, can replace even the cheaper varieties of starches at an economic saving.

It has been argued against the use of candies, honey and other sugars that they create digestive disturbances; that they are deficient in iron, lime and other inorganic salts necessary to nutrition, and that they injure the teeth. The first objection may be true in *some* instances with *particular* individuals, and undoubtedly not too concentrated solutions of sugar should be digested at a time; the same may be said of other favorite food materials. The objection that sugar contains no inorganic salts is not worthy of notice, unless sugar were to be employed as a food to the exclusion of all other foods. This, of course, is impossible, because sugar cannot supply the necessary protein. When sugar is used as an auxiliary to other food, as it should be, the objection has no weight, as iron and lime are only found in relatively small amounts in the human body and most articles of food contain all the mineral ingredients the body demands, and more.

The prevailing idea that sugar is especially injurious to teeth is probably erroneous, as the West Indian natives, as well as the darkies in the sugar belt, where naturally much sugar is consumed, have exceptionally good and sound teeth. Exposed nerves are sensitive to sweets, as most mature people know through sad experience. This, however, does not argue that sugar caused the decay. Sugar, like other organic material, will decompose with the formation of acids, such as butyric and lactic, and it is undoubtedly proper, wise and Godly to use a tooth-brush and antiseptic mouth-wash occasionally, whether sugar, honey, candy or other foods are eaten. Sugar, however, is so completley soluble that it would seem that there would be less danger of decomposition in the mouth with it than with other less soluble foods.

DR. E. N. EATON.

In conclusion, notwithstanding the fact that the consumption of sugar has greatly increased in the most progressive countries, reaching almost 100 pounds per capita per year, and in the form of glucose, honey and other sugars, much more than that amount, I see no reason from the standpoint of the physiologist, chemist, or dietist, why sugar in the form of pure candy, honey or other wholesome sweets might not be used much more extensively than it is now, to the satisfaction, and not to the physical detriment, of the people.

E. N. Eaton.

Dr. Miller—Most of us came here to learn how to get more honey and we listened to that sort of stuff all day long. But I want to tell you if you can get more of this stuff before the people, so that they will know a little better than they do the facts that Dr. Eaton has been giving us, you will find a better outlet for your honey; and if you can get those facts published in the papers generally, it will be worth a good deal to you, in your local papers and anywhere else. I would like to sit down and study that thing; I don't know enough to swallow it all down just as he reads it off there.

Mr. Root—I would like to know what you consider the comparative value of ordinary commercial glucose and honey as a food?

Dr. Eaton—I made no distinction in the paper between ordinary commercial glucose and honey. As to the food-value of them, they are perhaps something similar, although I should think the honey would have the greater food-value. Commercial glucose contains one ingredient the same as honey, and that is dextrose; but dextrin is not a sugar proper, and, therefore, does not have as great a food-value as honey. I think I am safe in saying that; although I don't know of any experiments that have been made that are directly upon that subject. But my impression is that dextrin is not as digestible or as valuable as a food as sugar proper; and therefore I would say honey is of more feeding value than glucose, even just considering the solids; and usually glucose contains considerably more water.

Dr. Miller—There are certain things in commercial glucose that make it commercial glucose instead of *chemically* pure glucose. Supposing we can get those things out of commercial glucose that would make it *chemically* pure, and put them into honey, how much do you think that would improve the honey?

Dr. Eaton—There is so much confusion in the use of the terms "glucose" and "pure glucose," that I don't believe I can answer the question. When I refer to glucose I refer to the commercial product which is obtained by the action of acids or other material such as *inverts* and ferments upon starch; and that product is only partially composed of sugar—composed of dextrose and dextrin—if you would say pure glucose in the meaning of pure dextrose, it was once a synonymous term with glucose, then I don't believe there would be any great difference in the feeding value of pure dextrose and honey, because there is no difference in the composition or feeding value as far as I know between dextrose and levulose, which are the sugars which compose honey; and so if you add just one of those sugars to honey there would be no difference in the feeding value. But using the term commercial glucose you have quite a different proposition, because there you have dextrin, which is a gum and not a sugar, and not as digestible as dextrose; and in addition to that you have perhaps some *sulphurous* acid in glucose which would interfere with the problem of digestion of the glucose very materially, in my judgment.

Mr. Whitney—I notice the Professor speaks frequently of sugar. Do you mean sugar as we find it commercially sold, or is it sugar such as we find it in honey, and in the commercial world?

Dr. Eaton—I use the term sugar as a generic term, covering a large number of sugars; and if I should use sugar in the sense perhaps that you are more accustomed to using it, meaning cane or beet sugar, I would use the term sucrose, chemically, to determine that sugar matter—sugars that have been obtained from the cane, and maple, and palm tree, and also, to some extent, in other vegetables. But there are a great many other sugars, as the generic term implies; we have the levulose and dextrose; those two sugars are found in honey. We have the dextrose, that is found in commercial glucose, and then we have milk-sugar which is very similar to cane-sugar, and a large number of other sugars which are not so well known; but, so far as I know, there is no great difference in the feeding value of these different sugars. Certainly there is no difference in the fuel-value of the different sugars. That is, one sugar when burned should create just about the same amount of energy as another sugar when burned. That is practically what occurs in the human body. But there may be yet some difference in the digestibility of these diffrent sugars, and there probably is, as milk-sugar has been found to agree better with infants than other sugars.

Mr. McCain—A great many intelligent people are opposed to their children eating a very large amount of sweets. If I understood the doctor correctly, he advocates the consumption of a larger amount, and I think in his paper he put pure candy and honey on a level, and spoke of them together. Now, Doctor, shall we, as bee-keepers, and educators, advocate the consumption of a large amount of sweets against the prejudice of intelligent people?

Dr. Eaton—I do not see why you should not, from a scientific standpoint; nature craves it, and children want their sweets, and I don't believe there is any harm in it, provided you use the pure article. There are a great many of the cheap, inferior candies on the market that I do not think should be placed in the hands of children. But giving them pure sucrose candy, honey-candy, or anything of that variety, and allowing them to use it judiciously, I believe it would be used to the benefit rather than the ill health of the children, providing they were fed on other foods to balance the candy rations.

Mr. Holtermann—I should like to ask Dr. Eaton whether the fact that the bee inverts a very large proportion of that honey, and, therefore, in that respect it is quite different glucose, wouldn't it have a very marked difference, not in the chemical value of the product as a food, but in its availability and liability to be digested?

Dr. Eaton—As far as dextrin is concerned, I should think that would be true; but I don't see any reason as far as the dextrose is concerned, why the dextrose obtained by the inversion of sucrose would be greatly different from dextrose obtained from *hydrolosis* of the stock.

Mr. Root—There is one question here, and it seems to me we are getting to the pivot of an important matter. Dr. Eaton is a chemist greatly interested in the study of bee-keeping. We bee-keepers have said, and we have been taught by certain authorities, that honey is much more easily assimilated than ordinary pure candies. I want to ask whether Dr. Eaton thinks that is correct; whether we have been incorrect or whether we are right on that.

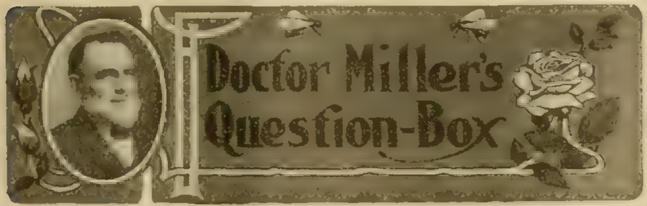
Dr. Eaton—I believe I said in my paper that honey was a partially predigested sugar. Sucrose is not. Honey is properly and originally obtained from sucrose in the form of nectar by inverting the sucrose. Now that is exactly what nature does in the human stomach before it can assimilate the food; and, therefore, honey is a partially pre-digested food, and in that respect is superior to sucrose.

Mr. Chantry—I just wanted to ask the Doctor if glucose could be bought for 4 cents a pound, that we find in stores all over the country, how much could be got for honey for family use? What would be the relative value of that sugar and good table honey?

Dr. Eaton—You would pay a little more from a food-value standpoint; but I don't think you want to estimate the comparative value of honey and glucose in that way, because the value of honey is not altogether its food-value, any more than the value of the higher-priced candies. You pay 60 cents a pound for the best candies, which are no more nutritious than sugar you can buy for 5 cents a pound. There is a value to honey that is different from its feeding value, and that is the value of taste; so that I would not want to estimate the comparative value of honey and glucose altogether on a feeding-value basis alone.

On motion of Mr. Kimmey, seconded, by Mr. Abbott, the convention adjourned.

(Continued next week.)



Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ **Dr. Miller does *not* answer Questions by mail.**

Hiving United Swarms—Best Hive-Cover

1. Two of my swarms united and clustered on the same limb, and I put them into one hive with empty combs. Shortly after, I noticed that they were killing each other; and the next day the hive was surrounded with dead bees which were carried out of the hive by those left alive. What is the cause of their killing each other? and how may I avoid it in future? I have had this experience two or three times this season. On one occasion, after hiving about half of the bees remained clustered outside of the hive all night, and thinking there was not sufficient room inside of the hive, I put on a second story the next morning, and then shoveled the bees in the top. Soon after, the killing commenced, and the live bees carried out dead bees all day.

2. What hive-cover do you consider best for general use? I bought the Excelsior cover, but today, after a heavy rain, I found a pool of water on the enamel cloth under the cover. Does water usually work under the edges of this cover, or is it through some oversight of mine that the water got there? As the gable cover has more slope, and also an air-space, I have almost decided to order it with my next lot of hives. What do you think of it for general use? New York.

Answers.—1. It is not usual for swarms to fight when they unite, but it may occur when one is a prime swarm and the other an after-swarm, one queen being a laying queen and the other a virgin, and it is possible that it may occur when both queens are of the same kind. Each queen has its own faction, and they must settle their difference with their lives. If you keep your queens clipped, then no laying queen can go with a swarm to make trouble. Without clipping you may manage after C. W. Dayton's fashion, as given on page 613. When the swarms have united for a short time, you will find the queens balled. Take away the queens, get the bees into a box or hive, and keep them imprisoned there for 6 or 8 hours, and then open a crack so only one or two bees can get out at a time, and each bee will find its way peaceably to its own hive.

2. No properly-constructed hive-cover should let the water work under. There is better chance for a gable cover to be made to shed rain, but it is sometimes inconvenient to have a cover that is not entirely flat on top, especially if you sometimes want to pile another hive on top. As yet I have found no cover more satisfactory than one made with two layers of boards and covered with zinc or tin, the metal being sure to be water-tight, and the two layers of board making an air-space which is cooler for the bees in summer, and warmer in winter. The objection is that such a cover costs about 30 cents.

◆

How Sections Are Filled—T Supers—Doolittle's Fixtures—Hive-Bottom—Catnip

1. My sections are capped all over, except almost all around the section is a row of empty cells partly filled. Is this the way all sections are filled? I removed these and put empty ones in their place, which they are now well ahead in. Was this doing right, or should I have waited till all were filled solid to the section's edges? This hive holds only 21 sections, and no more could be added till these were removed.

2. What is a T super? Looking up the catalogs I find nothing except T tins in this line. What is their advantage over the regular No. 1 super?

3. What kind of hives, frames, and sections does G. M. Doolittle use? As I understand, his super holds 44 sections.

4. I have two colonies in 8-frame hives (June 16), frame size, 11½x11½ inches, and these are about one-third full of honey, and both work in supers. Does this show an unprolific queen?

5. What kind of hive-bottoms do you like best, Danzenbaker or reversible?

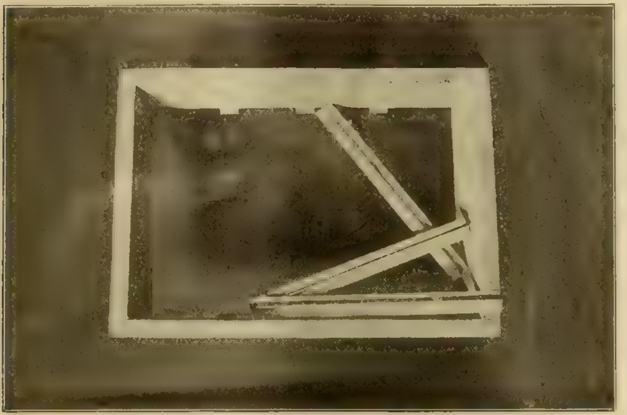
6. Is catnip a honey-plant? Pennsylvania.

Answers.—1. It is the usual thing to have most of the row of cells next the wood unsealed. It is generally considered a very desirable thing to have all these cells sealed, but usually to accomplish this requires more crowding than is profitable. Some, however, claim that it is better to have a row of empty cells next to the wood, for then when a section is cut out to put on the table it is not so dauby. But the more sealing the better for the market in general.

You were wise to give a fresh super without waiting for all the outside row to be filled and sealed, but there's something radically wrong that allows only 21 sections on a hive at a time. That sort of thing will certainly cut out a lot of your harvest. Unless your sections are of the closed-top kind, you ought to have been able to put a second super under the first one, and this should have been done probably when the first super was about half filled. It's a very poor colony that would be satisfied with only 21 sections at a time. In the heart of the harvest my colonies usually have from 3 to 5 supers of 24 sections each.

2. A T super is a plain box without top or bottom, ¼-inch deeper than the height of the sections it is to contain. On the bottom, at each end, is a plain strip of tin to support one end of the sections in the end rows, and at the proper places staples are driven into the bottom and then bent so as to support the T tins inside. On page 19 of "Forty Years Among the Bees," is a picture of a T super,

which the editor may be kind enough to reproduce here. I'm sorry to say it doesn't show as plainly as it might what a T super is. The 3 T tins are shown loose, and you will see at the bottom of the super the supports for them, which are here squares of sheet-iron nailed on. The bent staples are later, and perhaps a little better.



T-TINS AND BOTTOM OF T SUPER

I'm not sure what you mean by a regular No. 1 super, but one advantage of a T super is that the contents can be taken out *en masse,* and then the sections can be very easily taken apart. Another advantage is that there is no wood either under or over the sections, making them come nearer to the top-bars of the brood-frames, and making a pile of supers more compact, because each super is only ¼-inch higher than a section.

It seems a very strange inconsistency that allows T tins to be listed in a catalog and not the T super, for without the T super one will have no use for a T tin. For some reason no manufacturer pushes T supers, and yet there are not a few who produce section-honey on a large scale who will have no others. As for myself, I have tried about all the surplus arrangements for section honey that have been put on the market, some of them on a pretty large scale, and as yet have found nothing else to equal the T super. I have seen it condemned, but when I learned how it was used, without taking advantage of its best features, I don't wonder at its being condemned. I have no personal interest in the affair, it is no invention of mine, but it is my deliberate conviction that at present there is no better super in existence than the T super.

3. The hives on which Mr. Doolittle uses supers of 44 sections each are the 10-frame Langstroth, holding, of course, 10 Langstroth frames. Tall sections, 3¼x5⅜x1⅝, run crosswise.

BOTTOM-BOARD AND FALSE BOTTOM

4. Not necessarily.

5. What is called the Danzenbaker bottom-board is reversible, and is in reality a mere variation of the Miller bottom-board, which hardly entitles it to a change of name. Although the reversible or Dazenbaker bottom-board is my own invention, I now prefer a bottom-board that does not need reversing, as shown in "Forty Years Among the Bees," page 39. The bottom-board at the right is open, as used in winter, giving a 2-inch space under the frames. In the summer a false bottom is shoved under, as shown at the left, but almost any old thing can be shoved under to fill up 1¼ or 1½ inches of the space.

6. One of the very best.

The T-Super and 4¼ Section

1. Just why do you like the T-super better than any other kind?

2. Just how long ought the T-super to be made inside?

3. If you had 100 supers taking the slotted section-holders, and wanted to buy 100 others, what kind would you buy? That is, do you like the T-supers enough better so that you would make the change?

4. I believe the T-super is lengthened to fit the regular hives by putting cleats on the ends. Would it not be better to make them 20 inches long outside, and take up the extra space by nailing boards inside, so as to make the super warmer?

5. If you were to begin bee-keeping over again, would you adopt the 4¼ section? ILLINOIS.

ANSWERS.—1. Among a number of reasons, the all-sufficient one is that I think I can get more satisfactory results with less time and labor than with any other kind. There is no reason why I should be prejudiced in favor of the T-super beyond the fact of its real excellence. It is no invention of mine—that honor belongs to C. H. Dibbern, although it may have been original also with some one else. I got the idea in the first place from D. A. Jones of Canada, and I could never learn from whom he got it. Possibly in some roundabout way from C. H. Dibbern. Ever since adopting the T-super I have been on the lookout for something better, and have given a pretty fair trial to about all the new things that have claimed to be improvements, expecting to make a change when I found something better. As yet I have found nothing better. Others, however, have condemned the T-super in unmeasured terms; and it is likely that I should condemn it in the same terms if I should be compelled to use it as wrongly as have some.

2. Mine are 17⅜ long inside. I don't know whether any other length would do better.

3. That's an easier question than some others. If I had 100 hives taking a frame of a certain size, I would hesitate about getting 100 that would take a frame of a different size, if there were only a little difference in favor of the new kind, because I would not want the inconvenience of having the two sizes in the same apiary. But no such inconvenience attends the use of two different kinds of supers at the same time, and the second hundred would most assuredly be T-supers. I had hundreds of wide frames in use, and had satisfactory results with them; but I threw them all away and replaced them with T-supers when I found the latter were enough better. It was a waste, but I have never regretted it.

4. I doubt that the difference would count much. I have a few made that way, and don't like them any better. They are, of course, a little heavier.

5. I think I should.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Reports and Experiences

Bees Doing Well—Wet Weather

My bees are doing well this year, but the weather is very wet. I had a job with them for a green hand. I now have 6 colonies. One of them was queenless all spring and I gave them some eggs from another colony and they built 4 queen-cells. In 3 weeks they were queenless again, so I gave them brood from one colony and eggs from another, and in a week 43 queen-cells were capped; but they now have a queen.

GEO. E. WASCHENBERGER.

Stillwater, Minn , June 21.

Clover Bloom, But No Honey

Bees wintered here with some loss for some bee-keepers, and now it has been very cold for a week and the white clover is at its best. If it does not turn warm there will be no crop this summer. Last summer was the same. My bees did not get a pound of surplus honey from white clover then, and the fields and roadsides were just white then as they are now.

SWAN ANDERSON.

Chesterton, Ind., June 19.

An Unusual Season

Bees are commencing to swarm, and the swarms are very large. There is no honey in the brood-chambers and none in supers. Late frost destroyed nearly all the basswood buds. Clover and raspberry are yielding well to-day. The bees consumed more honey the past spring than in any spring since my bee-keeping of 14 years.

June 10 a parent colony, after casting its prime swarm, commenced to kill its drones about one hour later. I have noticed 3 or 4 more cases as above, something I never saw before.

Nights are very cold here, although the days are quite hot.

A. C. F. BARTZ.

Keystone, Wis., June 13.

Clover a Failure

Clover has turned brown and is a complete failure here. (Locality of Delaware Water Gap.) Sixty colonies in good condition did not store 100 sections of honey; in fact, many did not even fill bait-combs.

Fruit-bloom left the bees in fine condition, but winter had killed the clover on gravel soil, and on clay soil it did not yield. If the bees pull through we may get honey from buckwheat. We dare not feed sugar in this locality, as we would lose trade. The question in the sale of honey here is, Do you feed sugar?

A. C. HUNSBERGER.

Portland, Pa., June 25.

Weak Colonies Over the Strong

Last week Mr. Hasty called it the pig-a-back style of keeping a weak colony warm over a strong one. It seems that Mr. Hasty thinks there is nothing in this plan, or do I understand that I am a pig-a-back-way bee-keeper? You must understand, Mr. Hasty, that I am a beginner, and have little time to work with bees, also that I have had no schooling in this country, and it makes it harder to study and write. Have you had any experience with weak colonies on top of strong ones? Please explain yourself a little. Don't hit the beginners too hard. You might discourage them, only they have good, strong hearts. You can't discourage me. I am a bee-keeper in my heart, and will be.

The outlook is good so far here. It has been too wet, but the bees are strong now and work on white clover. I don't ask many questions. The way I find my information I look over the old copies of the American Bee Journal and am able to find most of the information I want.

A. L. OLIVER.

Ronneby, Minn., June 19.

Hived Swarms that Were Gone

The American Bee Journal gives me lots of pleasure. I talked with some of my neighbors who keep bees, trying to get them to subscribe, but some of them say they are afraid of getting sore eyes if they read so much. Some of them wait until their bees swarm, and hang on the fences and trees, and then come running to me like a mad dog and want hives.

A neighbor wanted 5 swarms of bees, and I told him they would be $2 50 each. He said, "All right, when you catch them I will give you my check." I told my wife to watch out a little once in a while and when the bees swarmed I would catch them and give her the money for a new dress. One day she called that the bees were swarming. I sawed the limb off and got the bees into the hive without much trouble. I had them nearly all in when my wife said there was another swarm on the next tree. I got another hive and caught that swarm also, and hived it. By the time I had that one hived my wife said there was still another swarm on another tree. I got them down, too, after which she told me to go right over to Mr. Johnson and tell him I had 3 swarms for him. Mr. Johnson came over and asked where the swarms were. I told him they were in the hives, of course. He looked into 2 hives and found no bees, but in the third there were bees all right. Now, I could swear that I caught 3 swarms, and hived them, too. My wife says they must have gotten away. Evidently they swarmed out while I was gone to tell Mr. Johnson.

W. A. LOCHMAN.

Mt. Washington, Mo., June 16.

White Mulberries for Bee-Feed

With the first hot days of this later June the white mulberry is dropping its fat and luscious fruit, bursting its juicy jacket as it strikes any hard substance. The grateful shade and sweet berries are an easy attraction for the neighborhood birds, the robin, the shrike and the oriole seeming to indicate a special preference, with the sparrow a close second.

With the intense heat of yesterday (June 29) and to-day it is only natural that nectar in flowers should evaporate, leaving less sweets in the calyxes for the bees to feast on and store against the days of famine that are certain to come before the snow makes its advent. Even now bees seem at a loss in what field they may best glean for coveted stores. They must feel in urgent need of making up for the many lost days of spring, when it was too cold or rainy for vigorous quest.

These conditions—all too common the last few years in this small portion of our land—should teach the intelligent and sympathetic bee-keeper the propriety of establishing some reliable deposit of available sweets to meet this oft-occurring emergency.

I have alluded to the subject of white mulberries in the pages of the American Bee Journal in years past. Subsequent experience enthusiastically confirms me in my previous statements of facts—that the white mulberry is a great dependable honey-food for bees. I make this broad statement because I believe—nay, because I am assured of it—not for gain, as I have no stock to sell.

I wish bee-keepers could see my bees literally swarm over the crushed ripe mulberries I am feeding on the alighting-board—how clean they devour every particle of the berry, rarely leaving the small, hard seeds.

Five minutes' observation would be more convincing than anything I can write, because the "Doubting Thomas" in the nature of us all does more to discourage and deter progress in all directions than all the facts arrayed can counteract.

I have only one fair-sized colony, and from the one tree I could easily feed 6 colonies one month, a big quart or more per day to each. This gives some idea what two dozen of these hardy trees would do for a respectable apiary. I have no doubt 2, or even 3, quarts could be advantageously fed to each colony, if done systematically; but I am home only evenings and mornings, hence I can not feed them during the day. I am prodding my feeble inventive faculties for a method of feeding them within the hive, and I have an inkling of how it can be done. If it proves a success, I'll let you know.

PEIRO.

Chicago.

Early Honey Crop Small

At this writing it looks as though the honey crop will be small, although in isolated localities bees are doing well. It is as yet too early to say what the result will be. The great amount of rain we have had, and are having, may produce a continuous honey-flow until buckwheat comes, and it is not too late to have a big honey crop. One of my out-yards is doing well.

F. GREINER.

Naples, N. Y., June 29.

Cool Weather and Little Nectar

There are quite a number keeping bees in this vicinity, most of them doing so in order to ride a hobby which is both interesting and inexpensive. As a rule, they have strains of blood from the best breeders in this country, and use the most modern and up-to-date hives and other "bee-furniture." There is just enough difference of opinion as to the proper size of hives, depth of frames, etc., to make things interesting at our usual weekly gatherings. The bees on the average did not come out of winter quarters very strong, but I don't believe this fact will cut a great deal of figure, as they have all built up at this date, and until within the last few days a colony of any size could do little more than make a living, owing to the cool weather and lack of nectar.

La Porte, Ind., June 27. C. H. WAIR.

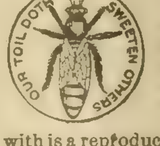
BEE-SUPPLIES Lewis Goods at Factory Prices ...

Best of everything the bee-keeper needs. Large and complete stock. Fine Italian and Caucasian Queens. Prompt service. Catalog free.
Get our prices before you order elsewhere.

C. M. SCOTT & CO.

29Atf 1004 EAST WASH. STREET, INDIANAPOLIS, IND.

Queen-Button for Bee-Folks


OUR TOIL DOTH SWEETEN OTHERS

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Please mention Bee Journal when writing Advertisers.

American Bee Journal

We Manufacture the Finest, Whitest No-Drip, Basswood Shipping-Case

on the market to-day. Covers and bottoms are of **One Piece.** Everything is **Polished** on both sides, and a better case cannot be had at any price.

We can furnish them in single or car-load lots to fit any number or style of section. Large quantities of all the standard sizes on hand.

As a special offer, we will sell you 25 cases to hold 24 sections, complete with **Nails, Paper** and **Glass,** at $4 00. Write for prices on larger quantities. Can furnish corrugated paper if desired.

We can furnish you with anything you need in the apiary. Our Catalog is free.

Prompt Shipment and Satisfaction Guaranteed

Minnesota Bee-Keepers' Supply Co.

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

CONVENTION NOTICE.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9 and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

"It is continuous advertising that impresses the public with the stability of a firm."

Bee-Keepers

If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to

20Atf **A. COPPIN, Wenona, Ill.**

Mention Bee Journal when writing.

Yellow From Tip to Tip

My Adel Queens and Bees are exceedingly handsome. Non-swarmers and practically non-stingers. Hustlers for honey; in fact, are regular Red Clover Bees. Each queen, $1. Catalog ready. **HENRY ALLEY**

30A6t WENHAM, MASS.

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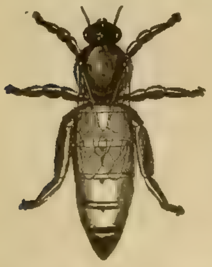

BY RETURN MAIL
Fine Italian Queens

Bred to the highest standard of honey-gathering and hardiness. No disease. Quality, promptness, safe arrival and absolute satisfaction guaranteed.

	1 Queen	2 Queens	4 Queens	6 Queens
Untested	$ .75	$1.45	$2.85	$4.25
Tested (or Warranted Tested)	1.00	1.90	3.75	5.50

Select Tested (for breeding purposes) $2.00 each—no discount.

It is not mine to command your favors—I'll do more, I'll merit them. May I ask a trial order?

CHAS. M. DARROW—R.F.D. No. 1—Box 19—Milo, Mo.

Mention Bee Journal when writing. 28Etf

DO YOU KNOW
THAT THE SALE OF
DITTMER'S FOUNDATION

Has increased so much that we were forced to double our melting capacity in order to fill orders promptly?

There is a Reason for This—It is because DITTMER'S FOUNDATION is tough, clear, and transparent, and has the natural odor of beeswax.

Agents for Dittmer's Foundation:

W. D. SOPER,	Jackson, Mich.	E. H. TAYLOR,	Welwyn Station, Herts, Eng.
BEE & HONEY CO.,	Beeville, Tex.	E. GRAINGER & CO.,	Toronto, Ont., Canada.

Our warehouse is well stocked with **all kinds of Bee-Keepers' Supplies.** Beeswax always wanted.

GUS DITTMER, Augusta, Wis.

Mention Bee Journal when writing.

The Summit Reached

Prices of Queens, Italian and Caucasian: Untested in June, $1 each; dozen, $9. Tested in June, $1.25 each; dozen, $12. Selected Queens of any grade, 25 cents extra.

Prices of Nuclei on application.

The Wood Bee-Hive Company
LANSING, MICH.

22Etf Please mention the Bee Journal.

Moore's Strain of Italians
AS RED-CLOVER WORKERS

L. C. Medkiff, Salem, N. J., says: "I bought an untested queen of you last year, and her bees have filled 3 comb-honey supers, and did not swarm, while 13 out of the 15 other colonies did not get more than half that amount.

"I have queens from 6 different breeders, and I class yours 100 percent above them all. Your bees worked very strong on the first crop of red clover. I know they were yours, because I floured them with a dredge-box and watched the hive. They also worked strong on the second crop of red-clover and lima-bean blossoms."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders **By Return Mail,** and shall probably be able to do so until the close of the season.

J. P. MOORE, R.F.D. 1 Morgan, Ky.

26Etf Mention Bee Journal when writing.

BINGHAM
Original
Direct Draft
CLEAN
Bee Smokers

Pat'd 1878, '82, '93 & 1903.

4 Largest Sizes Soot Burning

Never Go Out
And last from 5 to 21 years

Tin 4-in. Smoke Engine $1.50. 3½-inch $1.10. 3-inch $1.00. 2½-inch 90c. 2-inch Wonder 65c—per mail.

Sent on receipt of price per mail.

T. F. BINGHAM Farwell, Mich.

OTISVILLE, PA., Jan. 18, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

BEE-SUPPLIES

We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

LOWEST PRICES

and our excellent freight facilities enable us to make prompt shipments over 15 different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the

Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS now.** Write to-day. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.
T. B. Vallette & Son, Salina, Kan.

Catalogs issued in English or German.

Mention Bee Journal when writing.

BEE-KEEPERS

Have you secured your Hives, Sections, Foundation, Honey-Cans and Extractors yet? If not, you should not put it off any longer. Be prepared when the flow comes on. Let us assist you. We carry the largest stock of goods in the Middle West. The low freight-rates from

TOLEDO

Will save you money. We will buy your Honey and Beeswax, and pay highest market price. It will pay you to correspond with us when your crop is ready to market. No shipment too large for us. Carloads a specialty.

QUEENS! QUEENS! QUEENS!

We have a yard at Toledo with 100 colonies and over, which we use for queen-rearing only, besides several out-yards which we run for honey; also for extra bees. Brood and queens are mailed the same day order is received.

OUR 70-PAGE CATALOG IS SENT FREE

To any one asking for it. No matter whether you keep one colony or 500. We also handle a large line of Poultry Supplies, and sell Eggs for hatching. Our 1906 mating list is sent with every catalog. Don't buy until you have seen it.

GRIGGS BROTHERS, 521 Monroe St., Toledo, Ohio

25A6t **Mention Bee Journal when writing.**

Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of **SUPPLIES.** Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
17A26t 138 N. Pleasant St., NORWALK, OHIO

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NO. 1 SECTIONS, per 1000, $4.20; No. 2 Sections, per 1000, $3.70. Root's Dovetail and Danz. Comb-Honey Hives, and all kinds of **BEE-SUPPLIES** at factory prices. Berry Boxes, etc. Italian Queens.

26A13t **H. S. DUBY, St. Anne, Ill.**

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BEE-KEEPERS

Send for our 1906 Free Illustrated Catalog. Good Goods, Low Prices and Prompt Shipments are what you get if you send your orders to—

PAGE & LYON MFG. CO.
New London, Wis.

Rose Lawn Queens

Italians—Carniolans—Caucasians

We thank our friends for the liberal patronage extended to us, and beg to announce that we have largely increased the capacity of our queen-rearing yards, and will be prepared to fill orders promptly after July 1st.

Our prize offer on honey production is extended to Oct. 1st for those who wish to try our "Pure Gold Queens."

We call special attention to the superior qualities of our Red Clover Italians and Yellow Caucasians which are worthy the attention of progressive bee-keepers.

PRICES AFTER JULY 1

Italians and Carniolans, Select, Untested, 75 cents; six, $4.00.
Caucasians, Select, Untested, $1.00; six, $5.00.

Banat Queens for those who wish them.

Special prices for larger orders and breeding stock will be given on application. Write for Catalog.

ROSE LAWN APIARIES,
22Atf STA. C. LINCOLN, NEB.

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Italian and Caucasian
BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen	$ .65
" Tested Queen	.90
" Select Tested Queen	1.10
" Breeding Queen	1.65
1-comb nucleus (no queen)	.80
2 " " "	1.40
3 " " "	2.00
1 Un. Caucasian Queen,	1.25
1 Tested " "	1.75

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

J. L. STRONG
16Atf 204 E. Logan St., Clarinda, Iowa.

Mention Bee Journal when writing.

Italian and Caucasian Queens

A special discount is offered on all Queens and Bees ordered to be delivered before the close of the season of 1906. Pure stock, pure mating, and **excellence in grade** guaranteed. Address,

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R. F. D.

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Queens Now Ready to Mail

None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

GRANT ANDERSON,
20Atf SABINAL, TEXAS.

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Choice Queens

Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans — Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906.

CHAS. KOEPPEN,
26A13t FREDERICKSBURG, VA.

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Marshfield Hives and Sections

kept in stock; none better. **Dittmer's** Foundation and all kinds of Bee-Keepers' Supplies sold right. Thousands of Shipping-Cases, 24-pound, 13c; Fancy White Basswood, 16 cents. **Honey** and **Beeswax** wanted. Send for free list, and save 20 percent on your order.

W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

WALTER S. POUDER,
513-515 Massachusetts Ave., INDIANAPOLIS, IND.

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CAUCASIAN QUEENS!

I can furnish a limited number of Queens of this popular variety, bred from a Tested Queen sent me by the Agricultural Department, all mated in a mating yard away from all other bees, so that all of my Queens will be almost sure to be purely mated. These choice Queens only $1.00 each. **C. W. PRICE**
29Atf L.B. 484, SPIRIT LAKE, IOWA.

Queens By Return Mail

Queens from our fine strain of 3-band Italians will not disappoint you; bees are gentle and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c, $6 per doz. Tested, $1 each.

J. W. K. SHAW & CO.
19Atf LOREAUVILLE, Iberia Co., LA.

10 weeks for 10 Cents

The Farmers' Review
CHICAGO

A weekly paper for practical farmers. No shirt-sleeve editing but correspondence from actual farmers relating practical experiences. Fully illustrated and printed on good paper. Sent on trial 10 weeks for 10 cents. Address,

FARMERS' REVIEW
1001 Ellsworth Bldg., CHICAGO, ILL.
29A7t **Please mention the Bee Journal.**

Chautauqua Lake, N. Y.,

and return, via Nickel Plate Road, July 27th, at $14.00 for the round-trip, from Chicago. Return limit August 28th. Chicago City Ticket Office, 107 Adams Street. La Salle St. Station, the only depot in Chicago on the Elevated Loop.
15—29A2t

GOLDEN AND LEATHER-COLORED ITALIANS

Price of Golden Queens. Before July 1st: Untested, $1 each: 6 for $5; 12 for $9. Warranted $1.25 each; 6 for $7; 12 for $13. Tested, $1.50 each. Select Tested, $2. After July 1st: Untested, 75c each; 6 for $4; one dozen, $7. Warranted Tested, $1.25 each; 6 for $7; one dozen, $13. Tested, $1.50; Select Tested, 2; Breeders, $5. Caucasian Queens will be ready to mail July 1st; Untested, $1 each; 6 for $5. Warranted Tested, $1.40 each; 6 for $8.

We have three yards—two Italian and one Caucasian—and mean to meet the demand of the trade. Prices of Nuclei on application.

29Atf **D. J. BLOCHER, Pearl City, Ill.**

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN
265 & 267 Greenwich Street - NEW YORK, N. Y.
30Atf

Excellent Goods
Lowest Prices

Bee - Supplies
OF ALL KINDS

ESTABLISHED 25 YEARS

We have published THE AMERICAN BEE-KEEPER for 16 years (monthly 50c a year.) The largest and best illustrated magazine of its kind for the price published. Edited by two of the most experienced bee-keepers in America.

Sample copy free.

Our large, illustrated Price-List of Supplies free on application. Address

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JAMESTOWN, N. Y.

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ROOT'S GOODS

At Root's Factory Prices

Complete Stock for 1906 now on hand.

FREIGHT-RATES FROM CINCINNATI
are the LOWEST, ESPECIALLY for the SOUTH
as 'most all freight now goes through Cincinnati.

You will SAVE MONEY BUYING FROM ME.

Prompt Service is what I practice.
Satisfaction Guaranteed
Catalog mailed free. Send for same.

Let me book your Order for QUEENS bred in separate apiaries the GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, July 9.—Market is practically bare of comb honey, and while a little sells at about 15c for the best white grades, there is little volume to the trade Extracted is in some demand at 6@7c for the best grades, but off flavors are about unsaleable at 5@5½c. Beeswax selling upon arrival at 30c. R. A. BURNETT & CO.

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c: amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices, not what we pay. GRIGGS BROS.

INDIANAPOLIS, July 6.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, July 21.—Advices from different points are rather conflicting regarding the crop of honey this season, and consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted honey at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, July 10.—We still have some demand for comb honey, mostly for white grades, which sells at from 13@14c, according to quality. A very limited demand for light amber, with sufficient supply, and prices ruling at about 12c. Extracted in fairly good demand, with sufficient supply to meet all requirements. Quite some arrivals from the South, and common grades are selling at from 50@58c per gallon, and better grades at from 60@65c per gallon. California strong and white is selling at from 7@7½c, and light amber at from 6@6½c. No near-by honey in the markets as yet. Beeswax steady at 30c per pound.
HILDRETH & SEGELKEN

CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections: off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7⅛@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, July 5.—The honey market here is almost bare and there is very little new stock coming to market. On account of the poor wintering of the bees, very little honey has been gathered. The market for the best white honey in 24-section cases is $3.25@$3.40 per case; amber and other grades are 25@50c per case less. There is no new extracted honey on the market, but a little old is selling at 5½@6c, but scarcely any demand. We look for a good demand later. C. C. CLEMONS & CO.

CINCINNATI, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¾c. Beeswax, 30c.
C. H. W. WEBER.

Wanted

To sell lot of 300 empty 60-lb. capacity Honey-Cans. All in one lot, or less quantities. Cans are in first-class condition.

We are also in the market for Fancy Comb and Extracted Honey. Correspondence solicited

Michigan White Clover Honey Co.
AGENCIES: DETROIT, MICH.
35 So. Delaware Street, Indianapolis, Ind.
150 E. Jefferson Street, Louisville, Ky.
643 Broadway S.E., Cleveland, Ohio.
21A13t Please mention the Bee Journal

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

Mention Bee Journal when writing.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

WANTED

To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping cases; also extracted honey. We are cash buyers, and remit on receipt of goods.

THE FRED W. MUTH CO.
27Atf 51 Walnut St., CINCINNATI, OHIO.

Queens by Return Mail
None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00.
30A3t J. L. FAJEN, Alma, Mo.

Red Clover Queens
J. P. MOORE STRAIN
Mated to choice drones Select Untested, $1.00; six, $5.00. WALTER M. PARRISH,
30A5t LAWRENCE, KAN.

WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.
M. H. HUNT & SON,
BELL BRANCH WAYNE CO., MICH

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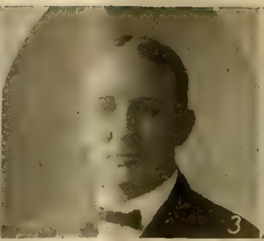
Queen-Clipping Device Free!

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it FREE as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
CHICAGO, ILL.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."



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Prompt Shipment is the Watchword

MILLIONS OF LEWIS SECTIONS
THOUSANDS OF LEWIS SHIPPING-CASES

Now in the warehouses of our Agents ready to be shipped you at a moment's notice. Twenty different distributing points. Wherever you are you can't get away from **Lewis Goods.**

These Are Lewis' Agents:

1. Emerson T. Abbott, St. Joseph, Mo.
2. Frank Rauchfuss, Mgr. Colorado Honey-Producers' Association, Denver, Colo.
3. Chas. H. Lilly, Pres. Chas. H. Lilly Co., Seattle, Portland, San Francisco.
4. E. H. Taylor, Welwyn, Herts, England.
5. Chas. B. Stevens, of C. B. Stevens & Co., Havana, Cuba.
6. A. G. Woodman, of A. G. Woodman Co., Grand Rapids, Mich.
7. C. M. Scott, of C. M. Scott & Co., Indianapolis, Ind.
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9. Fred Foulger, of Fred Foulger & Sons, Ogden, Utah.
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11. R. C. Aikin, Loveland, Colo.

12 and 13. Norris & Anspach, Kenton, Ohio.

14. H. M. Arnd, Mgr. York Honey & Bee Supply Co., Chicago, Ill.
15. Adam A. Clarke, Le Mars, Iowa.
16. M. H. Silvernale, Mgr. Kenyon Yard, Wisconsin Lumber Co., Faribault, Wis.
17. Paul Bachert, Lancaster, Calif.
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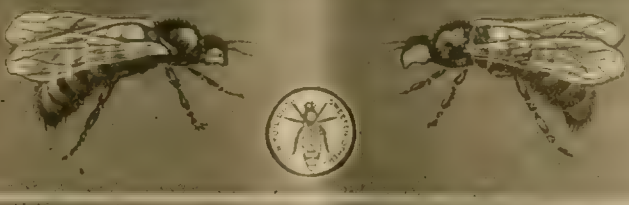
46th Year AUGUST 2, 1906 Number 31

AMERICAN BEE JOURNAL

REV. J. G. DIGGES,

Editor of the Irish Bee Journal and author of "The Irish Bee-Guide."

(See page 655)



THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested......	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8.00	$ .95	$ 5.00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10.00
Tested........	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested..	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders.......	$10.00	1-frame Nucleus (no queen)............	$1.50
Select Golden Breeders................	3.00	2-frame " "	2.00
" 3-band "	3.00	3-frame " "	2.50
" Carniolan "	3.10	4-frame " "	3.00
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Bees by the pound in light shipping-boxes, $1.00 per pound.
Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

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Fine Italian Queens

Bred to the highest standard of honey-gathering and hardiness. No disease. Quality, promptness, safe arrival and absolute satisfaction guaranteed.

	1 Queen	2 Queens	4 Queens	6 Queens
Untested........	$ .60	$1.20	$2.40	$3.60
Tested (or Warranted Tested)	1.00	1.90	3.75	5.50

Select Tested (for breeding purposes) $2.00 each—no discount.

It is not mine to command your favors—I'll do more, I'll merit them. May I ask a trial order?

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TWIN NUCLEUS AND MATING BOX has control of the queen by a 3-hole wheel on the outside, with one hole wire-screened, one hole covered with queen-excluding zinc, and the third hole to regulate the size of the entrance. (Patent applied for.) Price, $1.00.

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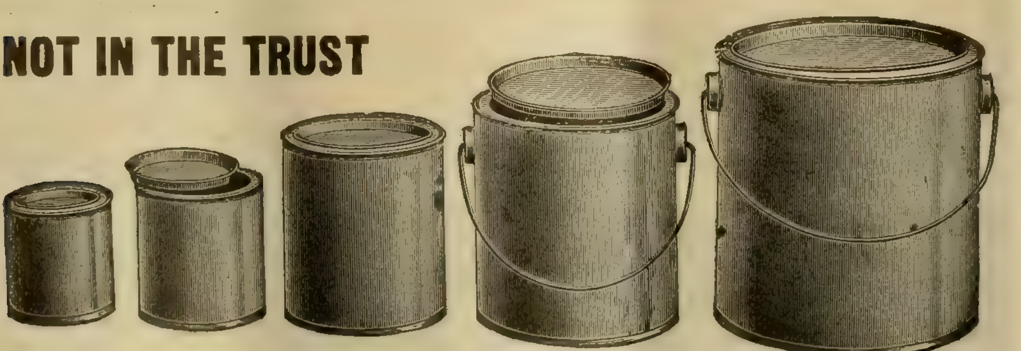

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Red Clover and 5-banded strains. Untested Queens, 75c; Select Untested, $1.00; Tested, $1.50; Select Tested, $2.50.

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☞ J. G. Goodner, of this State, writes me that "he prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

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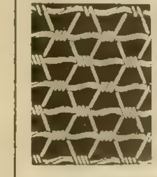

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☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Golden Italian or Red Clover Queens **by return mail.** Untested, 75c; Select Untested Queens, $1; Tested, $1.25; Select Tested, $2.25. Full Colonies in up-to-date hives, and Nuclei, for sale.

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Gleanings in Bee Culture,
Medina, Ohio

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HALF-POUND TUMBLERS

There seems to be an increasing demand for a cheap tumbler to put up a half-pound of honey to retail at 10 cents. We have secured a stock of such tumblers at a price which enables us to offer them at $4 per barrel of 24 dozen. This is less than 1½c apiece. For less than barrel lots we cannot repack them for less than 25c a dozen; or we will put them up 4 dozen to the case with partitions ready to reship when filled, at $1 a case; 10-case lots at 95c.

TIP-TOP HONEY-JARS

This is a new-style jar sealed with rubber ring under rim of a glass top held securely with spring-top fastener. This fastener is applied to a great variety of bottles and jars used for different purposes. We have selected two styles among them all as being most suitable for honey. The one and two pound square jars may be had with spring top fastening instead of cork at 75c per gross extra. We can furnish in two sizes.

½-pound, 45c per dozen; gross, $4.50. 1-pound, 50c per dozen; gross, $5.

MASON FRUIT-JARS

These are very largely used for canning fruit, and are often used for honey as well. As we buy them by the car-load, we can make the following prices at Medina, all put up complete with porcelain-lined caps and rubbers, in cases of one dozen:

Size.	Doz.	6 doz.	12-doz.
Pint	$ .52	$3.00	$5.75
Quart	.55	3.10	6.00
½-gallon	.75	4.10	8.00

Triumph Wrench for Mason Caps, 15c each; by mail, 20c. Ball's Waxed Rings, better than rubbers, 5c dozen; postage, 3c.

NO. 25 GLASS JAR

(Holding one pound of Honey.)

We have sold this jar for years, and in larger quantities than any other honey-package we ever handled. It has opal cap with rubber ring and tin screw-rim. Put up in re-shipping cases of 2 dozen each, as shown. Prices same as the Simplex Jars given below.

THE SIMPLEX JAR

The handsomest glass package on the market. It's a package you need not be ashamed of, and will find its way beside the finest of the grocery shelves. Create a demand for your honey.

This is a new jar with glass screw-top and rubber gasket fitted to the taper screw on jar, which seals absolutely air-tight. Put up in re-shipping cases of 2 dozen jars each, with corrugated protectors.

We are now prepared to offer Simplex and No. 25 jars in partitioned cases of two dozen each, ready to reship, when filled, at $1 per case; 10-case lots or over, at 95c; 50-case lots, at 90c. We can ship either from Medina, Chicago, New York, Philadelphia, and, after Sept. 1, from Mechanic Falls, Maine.

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AMERICAN
WEEKLY
BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor — CHICAGO, ILL., AUGUST 2, 1906 — Vol. XLVI—No. 31

Editorial Notes and Comments

Bees Don't Puncture Fruit

Bees are often charged with sins that they are not guilty of, and it seems to take a long time for their friends to prove their innocence. But frequently misjudgments arise from ignorance; and so, as fast as information is found through careful investigation, false judgments will be withdrawn and true estimates substituted therefor.

It has long been believed by some people that the bee is the great destroyer of grapes, peaches and plums by puncturing them and starting them to rotting. Many a time bees have been seen drinking the sap exuding from such punctures. It has taken a long time to exonerate the bee from this charge, but it is now found that most of the injury is done by crickets and June-bugs. Prof. Garman, of the Kentucky Experiment Station, says an exchange, took up this matter and set a watch to find which insects were puncturing the grapes, peaches and plums. He found two varieties of tree-crickets working vigorously at night cutting holes in the fruits named. He expresses the belief that these crickets are the chief culprits in puncturing thin-skinned fruit. One variety of June-bug was also found in the same business. Many of our horticulturists and bee-men will be gratified to learn of this new evidence in behalf of the bee.

Those 14 Frames With Brood from One Queen

There is always trouble to prevent internal dissensions in a large family, and the Editor of this Journal seems called upon to interfere between two editors of departments before any gore is shed. This time it is Dr. Miller, who gets after the Afterthinker after the following fashion:

> I had not thought to mix up in the controversy between Messrs. Alley and Ferris; but when Mr. Hasty starts in to umpire the game and shows rank partiality in championing Mr. Alley (page 598), I feel that some one should umpire Mr. Hasty. So I come, perhaps at the risk of a broken head, to the defense of Mr. Ferris in what he says on page 251. I don't mean to his defense in all he says on that page—I wouldn't like to do that—only as to the point of the combined Hasty-Alley attack.
>
> Queens that "occupied from 9 to 14 frames with brood," page 251—that's what started all the trouble, and causes the man who thinks afterward to gag at 5304 eggs in 24 hours. But, look here, Mr. Hasty, doesn't as close an observer as G. M. Doolittle stand sponsor for the statement that a queen has laid 5000 eggs in 24 hours? Perhaps, however, he wouldn't stand for the extra 304 eggs, and possibly not for the 5000 kept up as long as 21 days.
>
> But now, honor bright, did Mr. Ferris say 5304 eggs in 24 hours? He said he had queens that occupied from 9 to 14 frames with brood, and then you take "some mathematics of the knock-down sort," on page 445, and coolly say that calls for 5304 eggs a day. Let's look at those "mathematics," page 445:
>
> "A Langstroth frame 9x17 inches, inside measurement, contains 153 inches. There are 52 cells to the inch of comb. In 14 frames there would be 111,384 cells." And then because you think it's too big a stunt for a queen to fill 111,384 cells in 21 days, you want Mr. Ferris to "come down a cat or two" with his queens that occupy 14 frames with brood.
>
> How about that 9x17 inches, inside measurement? A Langstroth frame is 9⅛x17⅝ outside. If top-bar is ⅝ thick and bottom-bar ¼—nowadays they are not often made less than that, and sometimes more—that leaves the inside measurement 8¼x17. But the cells being six-sided there is a loss of space all around next the wood, and besides that there is nearly always a considerable space between the comb and the bottom-bar. Let us say, however, that the comb is built clear down to the bottom-bar, and that only ⅛ inch is lost at each margin; that will leave the available inside measurement 8x16¾, or 134 square inches. At 52 cells to the square inch (I think bees naturally build more than that to the inch, but with foundation it's likely right), that makes 6968 cells in a frame, or 97.552 in 14 frames. To compass that in 21 days would call for only 4645 a day, or 659 less than the estimated 5304.
>
> Still feel like gagging at 4645 a day, Mr. Hasty? Well, now, did Mr. Ferris really claim anything like 4645? What did he mean by 14 frames occupied with brood? What do *you* mean by a frame of brood? Place your hand on your heart and tell us whether you mean that every cell in the frame is filled with brood? Does any bee-keeper ever mean that? Did you ever see a frame of that kind? Do you ever expect to? In this locality we call it a frame of brood when as many as half the cells are filled. But if we were talking about a queen occupying 14 frames with brood, we would expect them to average something like ¾ of the cells occupied with brood. That would call for only 3484 a day, and that's about all you ought to charge up against Mr. Ferris, instead of 5304. Don't you think *you* ought to "come down a cat or two" yourself, Mr. Hasty? If you do, I'll be on speaking terms with you again. Not otherwise.
>
> C. C. MILLER.

Before any permanent settlement of the matters at issue, two questions must be answered. One of them is the question, "What is a frame of brood?" Evidently it can not mean that all the cells are filled; what does it mean? The term is one constantly in use, and it is really important that there be some definite understanding as to its meaning. Who will tell us?

The other question is, "How many eggs a day will a queen lay for 21 consecutive days?" Don't all answer at once.

Alsike Clover Diseases on Horses and Mules

A bulletin from the Agricultural Experiment Station of the University of Tennessee has been received, which gives an account of a strange disease sometimes produced on horses and mules—not on other stock—by continuous and exclusive feeding on alsike pasture. The serious failure of red clover, caused by "clover sickness" (a good stand beginning to sicken and die in August and all being gone in September), has turned attention to alsike, which is largely taking the place of red clover.

But an exclusive diet of alsike sometimes produces a disease whose symptoms are in part as follows:

> On the skin are inflamed areas, appearing at first as more or less rounded vesicular swellings, varying from ⅓ inch to 5 or 6 inches, or more, in diameter. The hair over the affected areas stands erect, and has a dull appearance, indicating loss of vitality. Later the skin becomes hard and puffed out, as the result of the formation of pus underneath. Finally, the deadened skin is cast off, leaving a deep, raw,

angry-looking ulcer, which eventually heals, with the formation of a conspicuous scar, covered with more or less white hair. These changes in the skin may occur on any part of the animal, but especially on the limbs, body and croup. The eye symptoms consist of a marked conjunctivitis, with swelling of the eyelids, sensitiveness to light, and a watery discharge from one or both eyes. The mucous membranes of the mouth become inflamed (stomatitis), ulcers form, and the animal slobbers and refuses to eat.

The treatment is comparatively simple. As soon as the disease is recognized the animal should be removed from the alsike clover pasture and the wounds subjected to ordinary antiseptic treatment, such as frequent washing with 5 percent solutions of carbolic acid or creolin, and the application to the ulcers on the skin of drying powders, consisting of boric and tannic acids in equals amounts.

As bee-keepers and farmers are encouraging the cultivation of alsike generally, and as it is possible that exclusive feeding on alsike pasture may sometimes be bad elsewhere than in Tennessee, it is important to be forewarned, ready to act promptly in case evil effects should appear.

Miscellaneous News-Items

Prof. A. J. Cook, who has been spending a year in special study and investigation in Germany, is again in this country. He expects to be at the home of his son, Senator Bert B. Cook, in Owosso, Mich., until about Aug. 15, when he goes to his home in Claremont, Calif. The Professor reports having had a delightful ocean voyage, and that he loves America more than ever, since seeing the best that exists across the "Big Pond." His wife and daughter will remain a year or more longer in Germany, so that the daughter may have the opportunity in music that is so excellent there. Prof. Cook says he was never in better health, and is ready to roll up his sleeves for good, hard work again. His many friends will rejoice in his safe journey home again after spending so many months abroad.

* * *

Michigan State Fair Apiarian Exhibit.—This Fair will be held in Detroit, Aug. 30 to Sept. 7. The following is the premium-list for bees, honey, etc., which is a very generous one, indeed:

	1st	2d	3d
Italian bees and queen in single-comb observatory hives	$ 8 00	$5 00	$3 00
Carniolan bees and queen in single-comb observatory hives	8 00	5 00	3 00
Caucasian bees and queen in single-comb observatory hives	8 00	5 00	3 00
Largest and best display of bees of various races in observatory hives	10 00	6 00	4 00
Largest display of queens of various races in mailing cages	5 00	3 00	2 00
Best case of white comb honey	3 00	2 00	1 00
Best case of light amber comb honey	2 50	1 50	1 00
Best and largest display of comb honey	10 00	6 00	4 00
Best display of special designs	3 00	2 00	1 00
Best dozen jars of white extracted honey	2 50	1 50	1 00
Best dozen jars of light amber extracted honey	2 00	1 00	50
Best and largest display of extracted honey	8 00	5 00	3 00
Best display of extracted honey in granulated form	3 00	2 00	1 00
Best 10 pounds of yellow beeswax	2 00	1 00	50
Best and largest display of beeswax	5 00	3 00	2 00
Best display of special designs in beeswax	3 00	2 00	1 00
Best display of honey-producing plants, mounted	3 00	2 00	1 00
Best display of fruits preserved in honey	3 00	2 00	1 00
Most instructive display of apiarian products and of the various uses made of honey and beeswax	15 00	10 00	5 00

The exhibition of all kinds of implements and bee-keepers' supplies is invited, for which space will be provided as far as possible at 10 cents per square foot for space used. Diploma given for best exhibit.

All strains of bees to be plainly labeled and placed in observatory hives, appearance of hives to be considered.

For any further information desired, address, I. H. Butterfield, Secretary, Detroit, Mich.

* * *

The National Convention Report occupies a number of pages this week. During the remaining numbers of August we will omit it, but give another large section of it in the first number of September, and continue thus monthly until the Report is completed. The intervening numbers of the Bee Journal—that is, after the first number of each month—will contain 16 pages each week. During this season of the year the space occupied by advertisements is somewhat less, and the majority of our readers are exceedingly busy with work in the apiary and also other matters, so that possibly 16 pages per week after the first week of each month during the rest of the year will answer very nicely. By running 32 pages the first issue of each month it will make an average of 20 pages per week. This will be over 1000 pages for 1906. It will be a large volume of most excellent bee-literature. And all for only $1—less than a postage stamp per week!

* * *

Chas. M. Darrow, of Milo, Mo., whose queen advertisement appears in this issue, says:

I used to deliver queens to the post-office in person, to get them off the same day, which, I trust, was appreciated by many. An additional carrier covering this route in the evening now permits me to get queens off the same day the orders are received, with less expense. I, therefore, marked untested down to 60 cents each, and will be able to furnish them in any quantity. So far this season I have sent out only 2 untested queens that proved to be mismated, which is less than 2 percent. Really, this is almost the same as tested queens, which sell for much higher prices.—Adv.

* * *

The Apiary of W. J. Reddish, shown herewith, is taken from a snapshot picture. When sending it Mr. Reddish wrote as follows:

My apiary is located at Dallas City, Pa , in the great oil-field. In the near background of the picture is seen a large tank and boiler-house, and in the distance a couple of oil-derricks.

Bees wintered well, and the prospects are good now for a large honey crop. May 26th I extracted one can of dandelion honey. At present (June 18th) bees are working well on white clover. In July we have plenty of basswood, and in the fall goldenrod, from which I secured 15 supers last fall.

APIARY OF W. J. REDDISH IN THE OIL REGIONS OF PENNSYLVANIA

If I could get Yon Yonson and A. I. Gleanings to make another trip to the North Pole and the Moon, I would get them to bring me back a setting or two of eggs of those big bees. I think bees of that stripe could be made to carry a bottle of natural gas with a burner attached, and could then gather honey at night as well as in daylight.

W. J. Reddish.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued recently. The complete new 344-page book, bound in cloth, is sent postpaid for $1.00; the Appendix alone for 10 cents. Or, the book and the American Bee Journal a year—both for $1.80; the Appendix and the American Bee Journal a year in advance, $1.00. Send al orders to the American Bee Journal office.

Biographs of Beedomites

REV. J. G. DIGGES

It is with much pleasure that we present to our readers this week the picture of our brother editor across the sea, the Rev. J. G. Digges, of the Irish Bee Journal. There are only a few of the bee-papers published in foreign lands that we are able to read, and the Irish Bee Journal is one of them. There are many published in French, Italian, Spanish, German, Russian, etc., that are "like Greek" to us; but all of them, no doubt, are of interest to the bee-keepers in the countries where they are published. The Irish Bee Journal, however, is one of the most interesting that comes to our desk. Its editor, Mr. Digges, is a versatile writer and evidently an accomplished gentleman. We had the pleasure of meeting his brother, who has been a leading physician for over 30 years in St. Louis. He it was who represented the Irish bee-keepers so well at our National Convention during the Louisiana Purchase Exposition.

The subject of this sketch, the Rev. J. G. Digges, was born in Dublin, and was educated at the High School there; subsequently entering Trinity College (Dublin University) in 1878, where he studied law and divinity, and graduated as B. A. with honors (Respondent) in 1882, and as M. A. in 1885. He was ordained Deacon in 1883 for the Curacy of Mohilcum-Tarmonbarry, and Priest, 1885, for the Curacy of St. George's, Belfast. He was appointed Private Chaplain at Lough Rynn—in his first parish, Sept. 1, 1885—where he still remains.

In 1885 it was that he handled his first honey-bees, when, one morning, he found on the veranda of his house a sack containing a swarm that had been left there by the wife of a neighboring cottager, as a "lucky gift for his reverence." He contracted "bee-fever" immediately, and violently, but did not in the least know what to do with the "lucky gift." He wrote off at once for literature, sent to Walton for a modern hive, joined the Irish Bee-Keepers' Association, and, in 1886, was the proud possessor of 3 colonies. In that year one colony gave 120 pounds of section honey, and returned a net profit of about $20—section honey was then at a fancy price in Ireland. Those 3 colonies, during several years, fed, clothed and educated an orphan girl, paid for her training as a nurse, and eventually assisted her passage to the United States, where, almost as soon as she landed, she married a respectable tradesman, and started nursing on her own account. (Sisters, take notice!)

Up to the year 1901 there was no bee-paper published in Ireland. Mr. Digges, as editor, then started the Irish Bee Journal, as the organ of the Irish Bee-Keepers' Association; and, as proprietor and editor, has this year carried it into its 6th volume. Few who witnessed the birth of the paper thought that it would long survive, but it has progressed wonderfully, has enlarged its size, and has enjoyed a steady increase of circulation not only in Ireland, but also in Great Britain, the British colonies, the United States, and Canada.

In 1904 he published the "Irish Bee Guide," which, originally intended to meet a want in its own country, has found its way all over the world, and has called forth letters of the warmest approval from the most distant places.

Mr. Digges is also the author of "The Cure of Inebriety," which was published in 1904, and was extensively reviewed by the press. It starts from the thesis that the drink habit is not an incurable vice, but a curable functional disease of the nervous system, and, on the principles it recommends, many patients have since been successfully treated in London, where the medical faculty has evinced much interest in the remedy. Another work from his pen has just been published, dealing with the Irish industrial question, and he has written, besides, many articles upon railway development, agricultural, and kindred subjects.

Outside his professional duties, the subject of this sketch is a busy man. It was of him that the Daily Mail (London) recently said in an article on "Some Curiosities of Directorates:"

"The Rev. J. G. Digges, of bee-keeping fame, is the most bloated pluralist among the clergy, controlling the destinies of six companies, of which five are closely connected with bee-keeping and agriculture, and the other one a railway."

He is a member of the Council of the Department of Agriculture and Technical Instruction for Ireland, a director of the Cavan and Leitrim Railway, President of the Mohill Agricultural and Dairy Company (Ltd.), President of the Irish Bee-Keepers' Federation (Ltd.), Trustee and Honorary Secretary of two Agricultural Banks, an examiner and member of the committee of the Irish Bee-Keepers' Association, a member of the Company Leitrim Committee of Agriculture, Honorary Secretary of the Athenæum Club, Dublin, and holds office on the Boards and Committees of several other companies and societies in Ireland. We should say that Mr. Digges *is* a busy man—"as busy as bees," as is often remarked. How he also manages to edit so good a bee-paper is a mystery.

The "Irish Bee Guide," mentioned before, is a book of 220 pages, aside from a number of advertising pages. It is written in a most fascinating style, and is also copiously illustrated, not only with pictures representing the appliances used in bee-keeping, but also scattered throughout its pages appear fine portraits of some of the leading bee-keepers of Ireland. The whole work is arranged in numbered paragraphs, which makes it very easy for reference. Mr. Wm. A. Pryal, of California, who received a copy of this work, was so charmed with it that he wrote the following review of it, which we are pleased to give a place here:

> From the old classic hills of Ireland there was sent forth a year or so ago a work on the bee that deserves greater perusal in America than I believe it has received. In thus recommending it, I do not wish it understood that I indorse it as a manual for our bee-keepers to follow, but simply to call the American bee-keepers' attention to it as a work written by an intelligent and fair-minded apiarist—by a man who evidently has no fads or fancies to promulgate.
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> Viewing the book as it lies unopened one is unprepared for the feast of rich and instructive reading contained within its semi-flexible green Irish linen covers, the front one of which is embellished with the title, together with the ancient harp of Tarra; a couple of shamrock leaves and other ornaments, are in a darker green than the cloth. The title on the back is the worst feature of the work—it is too indistinct.
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> On opening the book one at once notices the superior quality of the paper—and not over-sized paper is used throughout, except for the portraits, these being 18 full-page cuts. The press-work is better than I have seen in any of our popular American works on the same subject. Mr. Thos. Wm. Cowan's "The Honey-Bee" is about the best book on the bee, from a printer's point of view, I ever saw, but the same author's "British Bee-Keepers' Guide Book" has not so much of the labor and expense bestowed upon it. So, as stated, the "Irish Bee Guide" is the handsomest work for general use by bee-keepers published in the British Isles or elsewhere, as far as I know.
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> The volume is divided into three parts, the first, covering 41 pages, deals with the bee, and disposes of the subjects by chapters. Chapter I considers the occupants of the hive; II, The Bee in Spring; III, The Bee in Summer; IV, The Bee in Autumn and Winter; V, Anatomy of the Bee; VI, Different Races of Bees; VII, Bee-Products, etc.
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> Part II has 6 chapters, and discusses Hives and Frames; Appliances for Supering; Comb Foundation; Appliances for Feeding Bees; Appliances for Subdividing and Handling Bees; Appliances for Honey and Wax Extraction.
>
> Nineteen chapters and an Appendix complete the work. The chapter on the diseases, etc., of bees is concisely written, and, if it were for no other reason, the American bee-keeper should have the book just to read what the author says about these diseases. He defines each disease in one paragraph; gives the symptoms in the next, and ends by giving the treatment required for its cure. Foul brood is treated more elaborately than any other bee-disease, some 10 pages being used to cover the subject.
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> The illustrations for the most part are half-tone blocks with a sprinkling of zincographs, or pen-and-ink drawings. Many of the half-tones are reproductions from photographs by the author, who, along with other accomplishments, seems to be a good camerist. His photo of "Hives on Flags," facing page 80, is one of the most realistic pictures of hives I ever saw. In this respect Editor Digges, of the Irish Bee Journal, can enter the same class with E. R. Root and W. Z. Hutchinson, editors of two of our well-known bee-papers.
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> This causes me to digress. Why do we always have to write or speak of a *bee*-book or a *bee*-paper? Why not a *honey* or *wax* book or paper? Or, perhaps, better still, an *apiarian* paper? We never hear any one say a *cow*-book or *cow*-paper. It is a dairy-paper, unless the work is especially on the diseases and general treatment of the animal, and then it is truly a *cow*-book.
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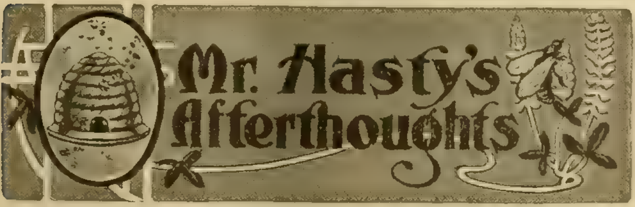
> To show the masterly style in which the author uses the English language, I should like to quote some passages from the volume, but lack of space forbids. Generally the language is concise and plain. But at times it is poetic, and is only exceeded by that of Mr. Maeter-

linck; the latter, however, not being English, but a native of Holland or Belgium, I believe.

Another feature of the book is that among the portraits of bee-keepers I notice those of several Roman Catholic clergymen. The author, I should suppose, is a Protestant minister. It would seem that the old animosities between Catholics, Presbyterians, Episcopalians and other sects are fast disappearing in that island that was cursed by religious strife since Cromwell made an unhappy land of it by his iron sway and unjust governmental innovations.

May the busy bee and the author of the "Irish Bee Guide" cement the good feeling already begun, and bring peace and plenty to the Green Isle of saints, warriors, statesmen, and, as some humorists have said, "American policemen." W. A. PRYAL.

The "Irish Bee Guide," by Rev. J. G. Digges, M. A., editor of the Irish Bee Journal, and expert member of the Examining Board of the Irish Bee-Keepers' Association, is sent postpaid for $1.00. Orders may be sent to the office of the American Bee Journal, or to the author, at Lough Rynn, Dromod, County Leitrim, Ireland.



The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

Bees Destroying Cells With Live Queens

In his racket with Mr. Alley, about bees never destroying cells containing live queens, Allen Latham seems to "make good" in the main. Perhaps we may concede to Mr. Alley that the queen *usually* makes the first puncture, and often stings as well—with some contras in the first case, and many in the second. Natural to suppose that imprisoned bees would be much more given to naughty tricks than free ones. I have noticed that sometimes bees will spare an alien cell *not sealed over yet*, when they are death to sealed ones. (Think it absurd to work so hard digging a hole when the top is still wide open.) If I should say bees never destroy a good-sized larva in an open queen-cell, I wonder if Allen Latham would "pitch into me." Page 504.

Honey Ripe Before and After Sealing

Others, also, as well as Mr. Dadant, have told us that honey is sometimes sealed before it is ripe, and sometimes ripe before it is sealed. Sound, I guess. But here's a thorny club for the fellow who always says that when he wants to extract green honey. Good thing, among the good things of the article, is calling our attention to this fact. A lightly screened tank in a hot room can oft be had with no extra expense worth mentioning; and more ripening surely won't hurt the honey any. By the way, I protest this use of the word "ripening" as a misuse. Ripening takes place inside the hive. What takes place in an open vessel outside is something else, and inferior. At least three important elements of the natural process, practically, are not reproduced outside the hive. Page 504.

Early Pollen—Bees Value Sound Pollen

Thanks to Mr. Doolittle for his description of skunk-cabbage bloom. Although it grows not far distant from me, I have never seen its bloom (almost ashamed to say). Through a wide region of country, I think tag-alder is the first pollen-source. Here it usually gets through before any bees get out to gather, but not always. Hazel is also very early. Wonder if Doolittle is *sure* that soft-maple pollen has a reddish tinge. Claytonia's bloom at about the same time, and yield lots of prettily tinged pollen—little, insignificant creatures that they are—on the ground beneath the trees.

Guess Doolittle is right that bees never throw away sound pollen. And I will venture still further to the conclusion that for the keeper to take out combs of pollen from the hive, or to move it around in the hive, is *usually* useless meddling. Page 505.

Floats Used When Feeding Bees

I think A. H. Snowberger's ideal float will eventually get so water will come on top, and then after a bit sink altogether. A great invention just dawns upon me that I think will save the situation. Get four thrown-away medicine bottles—the pinched, flat, untruthful kind that say, "I hold lots of salvation" (two lies neatly told). Cork them tightly, and put one under each corner of the sinking float. No need to clean the dirty things inside—but don't let any of the medicine remain daubed on the outside—too vile an insult, and possibly harm, to useful and blameless creatures. Should either bottle prove too buoyant, a little stone of suitable size can be laid over it. Page 509.

A "Hybrid" Suggestion and Question

Second your motion! Let Ernest try hybrids, and see if hybrid chickens won't stand editorial manipulation. You see I'm "in it," too. Took charge of three big goslings (as the only way in sight to keep them out of unendurable mischief) and one is dead, and one I lamed on a tame-goose chase. The demise is charged to my account—and the lameness I have not much chance to plead not guilty on. As there are hybrids and hybrids, let him preferably take Old Blue Hen crossed with original, eat-off-a-barrel Shanghai rooster. What would be the proper hybrid gosling for me? Page 523.

Italians Swarmed and Blacks Worked

So G. W. McGuire's experience as a beginner was that his new Italians wasted their energy in swarming, while his old blacks kept their heads level and stored some honey. I reckon Mr. G. was not the only Columbus to discover that island. Page 510.

Those Two Long Fellows

On the title page of No. 25, I gladly ken the faces and figures of my two "companions in tribulation," the two long fellows. "Long may they wave." No; long may they be up "the staff," but never may they wave.

Two Slumbering Secrets

'Nother secret now. Grand total of two in our possession, or tempting our possession. How does Davenport prevent swarming? Why did the St. Croix fellows saw themselves off? Which secret would you give the most for? Page 521.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food,"' written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

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Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

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Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Contributed Articles

Swarming, After-Swarms, Queen-Rearing, Etc.

BY EDWIN BEVINS.

MY best colony worked for comb-honey had, on June 27, completed 120 sections. On that day I put on a super filled with 8 "go-backs," and 16 sections with starters of foundation. This super is now (July 13) about ready to be removed, and has below it another super with 16 "go-backs" and 8 sections which were full of empty combs when put on. This super is well on towards completion. The colony has not swarmed. Does Dr. Miller think this queen will do for a breeder? I have some other colonies which have made nearly as good a record as this one.

I run my bee-yard without making any effort to prevent first swarms, except to give plenty of breeding-room before the flow, and plenty of super-room afterwards. I have had 15 or 20 swarms from about 100 colonies. I work many ways to prevent after-swarms. One of the most successful is to put the swarming colony on another stand. If set close beside the swarm now on the old stand, I have the choice either to unite the bees of the old colony to the swarm later, or, if young queens are wanted, nuclei can be made by dividing the combs, giving each nucleus a comb with 1 or more queen-cells on it. I have reared quite a number of young queens in this way this season. I have practiced in a small way cutting all of the queen-cells but one out of the combs of swarming colonies. None thus treated have sent out second swarms.

A few hives from which swarms issued I did not, for various reasons, care to remove to other stands. On these I put another hive filled with brood-combs. This was done for a double purpose. One purpose was to get the combs out of the way of the moths, and in addition to this I had a vague idea that they would have a tendency to prevent the issuance of after-swarms. No swarms have issued from colonies so treated. From this no large inference can be drawn. No bee-zinc was used. The new queens will have a large range, and I think there will be some big colonies before winter, and that they will have plenty of honey to keep them, if there is a fall flow.

I had quite a number of queens that did not rear bees enough to work in supers at all. On some of the hives I had hives filled with extracting combs, and zinc below. Taking a hint from Doolittle's "Scientific Queen-Rearing," I put some brood in this upper-story to attract the bees, and then after swarming began I put in either a comb with queen-cell on it, or else a cell which I had cut from a comb. These cells were invariably accepted. After the issuance of the young queens I removed the zinc, and, if Mr. Doolittle is correct, those colonies are requeened. I shall do a lot of requeening this season. I shall use all queens reared in nuclei from swarming colonies, and shall rear some more in my own yard if I have to feed in order to do it. (The honey-flow has been slow for about a week). In my case there is nothing to account for the difference in a surplus represented by a cipher and one represented by 120, except the difference in queens. Other factors count in some instances, but no other factors were in sight here.

I find it particularly unsafe to keep a queen that has done uncommonly well in a colony that has been worked for extracted honey. One colony so worked last season became very strong early this season. Just before the time for supering an examination showed that the colony, although quite strong, had no brood, sealed or unsealed, and there was no sign that the queen had been superseded. I gave combs of unsealed brood repeatedly in order for the bees to rear a queen, but they persistently refused to start queen-cells. Later I found brood in one of the combs which I had not given them, and so it seems they did supersede the old queen, but so late there could be no surplus from the early flow. In other cases I had queens that began laying and had two or 3 patches of brood the size of a hand, and then died. On the whole, I conclude that it is safer for the apiarist to do a good deal of superseding himself and not wait for the bees to do it.

The American Bee Journal at one time gave the unqualified advice to break up or unite all colonies that are found queenless in spring. Miss Wilson gave the same advice, but qualified it later. I had some queenless colonies which I united with some having queens. Two colonies which were strong in bees I requeened with purchased queens—1 a tested queen from this State, the other an untested from Texas. These colonies have done some work in the supers.

I will refrain from saying anything more on the subject of getting unfinished sections cleaned up in the fall. Miss Wilson's latest utterance on the subject reveals the cause of her and Dr. Miller's failures to get satisfactory work done. Satisfactory work need not be expected without the use of the uncapping-knife.

Leon, Iowa.

15—Dadant Methods of Honey-Production

BY C. P. DADANT.

A READER of American Bee Journal puts this question to me, after reading what I have said about ripening honey: What would you advise me to use, a tank for extracted honey, or closed receptacles, or what?

This question cannot be answered in a few words, because much depends upon the condition of the honey when harvested. If you allow the honey to become well-ripened before extracting it, it is absolutely unnecessary to put it in an open vessel. Of course, if you have an open tank in a well-sheltered position, so that no flies, ants or other insects can get access to it, this is as good a receptacle as you may wish for, provided, however, that you do not let the honey remain in it long enough to granulate. If you allow honey to granulate in a large tank, you will have considerable trouble in removing it.

We use galvanized-iron tanks whenever we deem it advisable to keep the honey where it may continue to ripen. The tanks we have used for this purpose are also used for wine-making. They are 4 feet in height and 5 feet in diameter, and hold 4,500 pounds, with a honey-gate of best quality near the bottom. The tank is slightly inclined towards the front so that all the honey may be drained out. For a small apiary smaller tanks would be good, say 3 feet by 3 feet. But when such a tank is full, it cannot be moved, and must be emptied on the spot. If you allow the honey to granulate in it, you will have difficulty to remove it.

In our own practice, with large apiaries in different locations, we have found it necessary to put our honey in such receptacles that we could remove it at once from the farm on which it had been produced. If we left honey in a tank on a tenanted farm, we would run some risk of not finding it all there when we came again. Besides, in an out-apiary, it is difficult to secure such rooms as are entirely fit for keeping honey. Mice often have access to the honey-room, and, on the whole, we have found barrels to be the most satisfactory package, as first receptacle for the crop. These may be hauled away at any time, and when bunged up are not likely to be tampered with. They are absolutely proof against insects or mice, as well as children.

But we are very particular as to the kind of barrels to use. It is out of the question to pick up an old water-barrel or a cheap syrup-barrel for honey. Neither will new barrels do, except very expensive ones. The best barrels we ever used are "empty alcohol barrels" which may usually be secured from drug-houses. These barrels have been emptied of their alcohol for medicinal purposes. They are absolutely tight, for alcohol will evaporate through the staves if the barrel is not prepared purposely. Usually they are coated on the inside with some sort of gum or glue which will also keep the honey from leaking out. But the barrel must be kept dry, for just as soon as it is exposed to dampness the wood will swell, and whenever it dries again it will begin to leak. This dry condition is also necessary for the good of the honey, which is very hygrometric, and will gather moisture even through the staves of a barrel.

The advantage of barrels is in the handling at any time. We can also keep honey in this shape from year to year.

After several good seasons it has happened to us that we would not reach the bottom of a pile of barrels for 3 or 4 years, and at the end of that time we found the honey just as good as on the first day. It is quite important to be able to keep honey from good seasons when it is cheap, for bad seasons when it is high.

If our honey granulates in the barrels, it is not difficult to remove it. We mark the head and the staves with chalk and a cold-chisel, so as to be able to replace the head in the same way, then the hoops are chased off one end, and the head removed by the help of a strong gimlet screwed into the center of it. The honey is then dug out of the barrel with a clean spade. We have often taken the head out of a barrel of honey, removed the honey and, putting the head back into the barrel, have poured the liquid honey into it again. But this must not be done while the honey is hot, because its heat will shrink the staves enough to cause leakage, even if the staves are quite dry.

I must say, however, that most of our honey is put up into small packages before it begins to granulate, for by this method we save quite an amount of unnecessary work. The handling of granulated honey is always extra labor. If we could know in just what size of packages the orders would come, it would save considerable work to put it up in that shape, just as soon as we have it settled and skimmed, to have it perfectly clean. But sales change from one year to another, and although a goodly portion of the honey may be put up in 5 and 10-pound tins, and another portion may be put into 60-pound cans, yet we find it necessary to wait for orders before putting up the bulk of the crop.

DADANT TANK FOR STORING HONEY.

The reader will thus understand our reasons for using barrels. But in a small apiary, one or two small tanks, covered with muslin, will probably be the most satisfactory packages for receiving the crop at the time of extracting. Whatever you do, by all means avoid cheap barrels, for they will leak all summer and will waste honey until the honey is granulated.

If you have good sale for honey in tins of different sizes, let the honey settle in the tank for a few days, then draw it off into suitable packages. Do not buy second-hand vessels of any kind. Honey ought to be put into new tin vessels where it will keep good and wholesome. Good tin will not rust under honey, but iron will. The edge of a sheet of tin exposed to the honey will sooner or later make a dark streak in the honey. Lead-tin will not do. It must be bright tin.

Tin vessels will leak honey when they would not allow a drop of water to escape. This is probably because honey is heaveier and has less capillarity than water. If you discover a small leak in a tin vessel full of honey, do not waste time in emptying it out, but just rub a little tallow-wax (beeswax and tallow mixed together by melting) over the spot. This will stop the leaking. Understand, however, that this is not meant for such things as nail-holes or large cracks, but only for imperceptible leaks, such as are often found in the seams of tin vessels.

When removing foam or scum from honey, you will find this to contain mainly small particles of comb, cappings, and perhaps now and then a bee or a bee's wing. This foam is put into a jar, and, after a few days, skimmed again, when the entire amount of dirty honey from a whole tankful will be reduced to a gallon or less, which may be fed to the bees that are most in need of help. Hamilton, Ill.

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Cutting Queen-Cells to Prevent After-Swarming

BY E. J. CRONKLETON.

On page 901, I see the question asked Dr. Miller, "Will cutting out of all queen-cells but one, a few days before a colony swarms, prevent afterswarms?" The Doctor's answer is, "Tradition says the plan is successful, and I have no proof to the contrary."

Now, I will try to brace the Doctor up a little. Away back in the '80's I was in my prime in the bee-business, and there was a great cry for a method that would prevent afterswarms. Well, I gave the matter a little thought and it resulted in producing the plan of cutting out all the queen-cells but one. I tried it for a couple of seasons and it proved a perfect success with me. So in order to be sure before publishing it, I appointed Dr. Mason of Ohio, and Mr. Demaree of Kentucky, and two others whom I do not remember now, to experiment with it and report results. The 2 succeeding years were very poor seasons for making such experiments, and in the meantime some one took my line of thought, and I think it was published. I don't think I ever published it. So you see, Doctor, I came very near being the author of this plan, and should be able to tell why it works as well as it does.

Well, when a colony swarms every bee that has the impulse on her goes with the swarm, and there are but little left in the old hive, but young bees, some drones, and plenty of brood, and queen-cells. Just as soon as you have the swarm attended to, go right to the old hive and cut out the queen-cells. Don't wait 3 or 4 days; do it immediately. Queens hatch out soon after swarming; jealousy occurs, and then the impulse is upon them, and then you are lost, and Mr. Davenport is afraid to tell you how to proceed, and I can not tell you, either.

Now, the benefits of this procedure with me is 1 and sometimes 2 supers of honey from this old colony; otherwise you get 1 or 2 swarms of bees, which you do not want.

This plan does not interfere with the nature of the bees, and it is based upon scientific principles. If rightly praciced it is a perfect success. At least it is with me.

It is a curious proposition that Mr. Davenport presents to us on page 603, about preventing swarming, and I think he is laboring under some delusion. I don't believe a word of it until he comes right out square-footed and tells us all about it. I think there are a great many of us old fellows who have studied bees for 20 or 30 years, and know pretty nearly what a bee will do under any and all circumstances. We are ready to believe almost anything if it is proved up. We deny everything in this case, and insist on more proof. Dunlap, Iowa.

Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when writing us on other matters.

Convention Proceedings

Report of the Western Illinois Convention

The meeting was held in Galesburg, Ill., and was called to order by the President, J. E. Johnson, about 9 o'clock a. m., May 16, 1906. Instead of a President's address the following questions were given for discussion:

HONEY PROSPECTS—INCREASING THE HONEY FIELD

"All things considered, what is your prospect for a good honey crop this year?"

"How might we make our locality yield more honey?"

Some of the members thought the prospect fair, but most thought it poor to very poor, owing to the absence of white clover.

Mr. C. P. Dadant said we might improve our locality by sowing sweet clover and some other honey-plants, and thought that much good might be done by getting farmers to sow alsike clover along with their timothy and other grass seed.

Nearly all members reported the heaviest winter loss for many years. Mr. Cave reported only 5 or 6 colonies lost out of 170 wintered in the cellar. Mr. Woods lost very heavily in the cellar. Frank Moore reported 30 percent loss out of 80 colonies. Some lost as high as 75 percent. J. E. Johnson reported nearly 30 per cent loss in outdoor wintering, but 12 colonies put into the cellar came out in fine shape. All in the cellar had young queens bought of queen-breeders. The fine Punic queen imported from England, was among those lost in outdoor wintering, and he regretted very much not having wintered that colony in the cellar. Those in the cellar consumed only about one-third as much honey as those wintered outdoors.

REPORT OF THE FOUL BROOD INSPECTOR.

Mr. J. Q. Smith gave a report of his work as inspector, and said he had met with success in treating foul-brood, and as yet had encountered but very little opposition among bee-keepers in examining apiaries. He favors the appointment of deputies in different parts of the State to treat bees, as in that way more work can be done, and more good accomplished with less expense. He also gave his method of treating foul-brood. Every bee-keeper in the State of Illinois who has foul brood among his bees, or any bee-keeper who has neighbors that have foul-brood among their bees should correspond with Mr. Smith, at Lincoln, Ill., and he will give them aid. He will either come and treat them himself, or see that they are treated properly.

VALUE OF WORKER-COMB.

Mr. Dadant gave an excellent talk on the value of good worker-comb, and illustrated how the good patches of worker-cells could be cut by pattern out of a frame having too much drone-comb and inserted in other frames having the same, so that 5 or 6 frames of bad comb could be made into 4 or 5 frames of good worker-comb, and thus any one having a lot of bad combs containing too much drone-comb could fix them over into good worker-comb without expense, and thus get comb as good as though full sheets of brood foundation were used.

Different questions were discussed, some of which were very interesting and profitable to all. The election of officers resulted in the same officers being re-elected.

It is hardly profitable for me to take up more space in the American Bee Journal with this report, except to say that a communication was read from the Secretary, J. Arthur Smith, of the Connecticut Association, with a copy of the resolutions adopted by that Association in regard to the purchase of bee-supplies. This matter was discussed at some length and the Western Illinois Association is heartily in sympathy with the matter of coöperation and extends to the Connecticut Association its thanks for being interested in our Association. The Western Illinois Association is ever ready to extend the hand of fellowship to all other bee-keepers' associations, and is ready to coöperate in any movement which is for the betterment and benefit of the every-day bee-keeper. We have been enjoying the benefits of coöperation in our own Association. But while we believe in coöperation, we don't believe in abusing the manufacturers, as they are like the rest of us. They want to make all they can, but it is our business to see that we are not the victims of high prices. So we don't talk so very much, but we "saw lots of wood," and have been enjoying good goods at low prices for about 3 years.

Our next meeting will be held in the county courtroom at Galesburg, Ill., in September and we want a lot of Illinois bee-keepers there who have not been there before, and any from other States that will come. Our wives are going to bake a lot of cakes, cookies, etc., using honey instead of sugar. They will also bring jellies, preserves, jams, etc., in which honey forms the sweetening part, and will exhibit for the benefit of the bee-keeping industry. If you are good, you may sample some of them. In addition to this, Messrs. C. P. Dadant, George W. York, J. Q. Smith and others will be present and contribute to our profit and benefit. You can't afford to stay away. Come and be welcome. The exact day is not set, but it will be duly announced in this and other bee-papers.

J. E. Johnson, *President.*

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NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 641.]

Mr. O. L. Hershiser presented the following paper on

WAX-EXTRACTING METHODS AND THEIR FAULTS

Wax is the most valuable of apiarian products, because it commands the higher price; and for the further reason, that it may be kept indefinitely without injury to its properties. Moreover, its market value is comparatively stable. Although a product of great value, comparatively little attention has been given to its production until quite recent times. The only explanation of the lack of interest in wax production is the fact that the product from a single apiary is small. Formerly the bee-keeper had but one apiary, and that rarely exceeded 100 colonies. The honey-extractor was not in existence, and, hence, there was no wax from cappings. It is doubtful if the wax product before the era of modern bee-keeping, which may be said to have commenced with Langstroth, exceeded one-half pound per colony under the most careful methods by the best apiarists. A close observer, Mr. W. L. Cogshall, estimates that the wax-product under the present methods of production, is at the rate of 12 pounds to every 1,000 pounds of honey. In 1893, Mr. Mercer, of California, produced 100,000 pounds of honey, and about 2,000 pounds of wax, which would be at the rate of 20 pounds per thousand. Much depends upon the thoroughness with which the bees are allowed to cap the honey. It may be remarked, in passing, to those who may feel disposed to save time and pounds of honey by extracting before it is sealed, that they lose in wax more than they make up in additional pounds of unripe nectar, and are losers in the end both in dollars, and in conscience, by reason of failing to allow the honey to reach perfection in the natural way.

Until within quite recent times the most common method of producing wax was to place the bee-comb within a bag, immerse the same in a kettle of boiling water, and when the wax had melted and floated to the surface, skim it off or allow it to form into a solid cake before removing it. Good wax was thus obtained, but, obviously, it was a wasteful method; the amount of wax thrown away with the slumgum or refuse being from 25 percent to 35 percent of the weight of slumgum.

The extracting of wax was a messy job, and because of this disagreeable feature, various other means of obtaining it have from time to time been devised, but classified with reference to the principles involved, they may all be brought under three heads, namely, the sun or solar; the steam and the hot-water methods. Practically there is but one solar method, but of the others, the steam and the hot water, the variations and the combinations are too numerous to mention in detail.

The solar extractor, with which most of you are familiar, is an excellent method of obtaining wax from cappings. The wax is of superior quality, which is attributable to the bleaching power of the sun, but mostly due to the fact that cappings are nearly pure wax with very little dark coloring matter in them.

For extracting cappings the solar is, perhaps, the most economical, as there is no expense for fuel, and no time required in its operation, except to fill it and to remove the wax. Moreover, in the extracting of cappings the amount of slumgum resulting is very small. When it comes to extracting wax from old combs the solar method is about the least desirable. Some wax can be obtained, but scarcely enough to pay for cost, maintenance and operating the machine. The difficulty with the solar method, in extracting old comb, is that the latter is usually largely made up of cast-off cocoons of the larval bees, pollen, propolis and other foreign materials, which act as a sponge to absorb and hold the wax, preventing it from flowing out into the receptacle when melted. The extractor becomes choked with slumgum from each filling, and this refuse contains from 25 percent to 30 percent of pure wax. The percentage of wax remaining in the slumgum from cappings is even higher, but the small quantity of such refuse makes it of little consequence.

The solar extractor is perfect as far as perfection may reasonably be expected in it; that is, to get out all the wax that will drain off it by gravity. It is simple and cheap to construct and operate, requires no artificial fuel, and is no more mussy than any other method.

But a good, modern pressure-machine will do the work of extracting both the old comb and the cappings, and such a machine should be used by every apiarist, the solar method being supplemental thereto.

A method somewhat similar to the solar is the placing of the comb in an oven, on a screen, or a strainer, over a receptacle, so the wax will collect therein.

This method requires artificial heat, like the bleaching influence of the sun, and is open to all the faults of the solar method. Obviously, this process is slow and tedious on account of the limited capacity of the average oven.

The wax-extractor much used about 20 years ago, and through false economy still retained and used by many bee-keepers, consists of a tin can divided into two compartments—a small one below to contain water, and a large one above within which a wire-cloth or perforated-metal basket, for containing the old comb and cappings, is placed. Means for steam to pass from the lower into the upper compartment is provided, and a spout at the lower plane of the upper compartment is so placed as to drain off the wax. In operation the perforated-metal basket is filled with water and placed over the fire. Steam is generated and as much wax as will drain out by gravity is obtained; that which remains in the slumgum being nearly as much as that left by the solar method. The last above-described method is, in the opinion of the writer, very little, if any, improvement over the primitive bag-and-hot-water method first mentioned.

A great improvement over the method last described is found in the Ferris extractor. It is rectangular in form, and is composed of from one to three units, like the other. These units are long and narrow, which facilitate the flow of wax. This machine has a compartment below for water from which to generate steam, and the compartment above within which is a wire-cloth basket to contain the wax-yielding materials. As first manufactured the wax drained off by gravity, but, subsequently, pressure, by means of a screw and follower, was used, resulting in a largely increased percentage of wax. To obtain the best results the screw must be taken out, the follower removed, and the slumgum raked over to expose new surfaces, and again pressed; and this operation repeated several times or until no more wax can be obtained. The fault with this machine, in the writer's opinion, is that the follower and screw are too frail, resulting in their speedy destruction. Again, in this method, there is a certain amount of wax held by the slumgum, by capillary attraction, which no amount of pressure will expel. In my own operations, by an improved method, I have found the amount of wax that could be obtained from this slumgum to be over 15 percent of its weight.

Another form of the steam process is found in the Root-German wax-press, and with this I feel safe in saying you are all familiar, either by having operated it, or in the study of the machine in bee-supply catalogs, or in advertisements in our bee-periodicals. It has the merit of being compact and powerful, and it has satisfactory capacity. In my judgment, there is no better steam method in use. I believe it is recommended that the steam be combined with the hot-water method, by first boiling the comb or slumgum and then pressing it while under steam. In order to get the wax out clean it is recommended to take out the plunger or follower and also the slumgum, rake or stir it over to expose new surfaces, and press again; repeating the operation until no more wax can be obtained. This, obviously, is a mussy operation. However, while mentioning the good qualities of this method, I desire to note an exception to the widely published statement by the manufacturers of this press, that by its use "You can get every particle of wax out of old combs."

Having extracted several parcels of slumgum which had previously been treated by the German method, my experience is that several particles of wax still remain in this refuse. In two careful tests which I made of refuse from the German press, I obtained from one parcel 7 percent and from the other 11 percent of its weight in pure wax. I desire to go on record with the statement, that, so far as I have been able to ascertain, no machine with any amount of pressure will expel every particle of wax, when economically operated. I am prepared to say, however, that it can be accomplished economically to within less than 1 percent of the weight of the slumgum.

Messrs. Hatch and Gemmill have done much towards initiating improvements in wax-extracting methods, and I take pleasure in acknowledging that the publication of their experiments was what inspired me to make researches in this line. Not having had the time or opportunity to look up past records, I am unable, I fear, to describe the Hatch and Gemmill methods correctly. However, they are essentially hot-water methods, the comb first being boiled then placed in the form of a cheese with burlap or some other suitable cloth to retain it in place, and screw-pressure applied. I then believed, and still believe, that the hot-water method offers the best possibilities, and it has been along this line that my experiments have been made.

The pointing out of faults in methods implies that improvements are possible. All the methods described have more or less merit, and by using that which is good in them, with some added new features, an ideally perfect wax-extractor is possible. To produce this perfect machine cognizance must be taken of certain laws and physical properties of the various combinations of elements with which we have to deal in the operations. Specific gravity, adhesion, capillary attraction, absorption, etc., must be advantageously used or they will, and do, operate to our disadvantage. For example, take a sponge, saturate it with ink, or any coloring matter; now subject it to the most powerful pressure, and you cannot expel all the coloring matter. Why? Because capillary attraction holds it with a giant grip. But dip the sponge in water and press again and you will expel more of the coloring matter, and if you will repeat the process a few times you will get it clean of all color. The slumgum is sponge-like, and in a similar manner the wax must be washed out. Again, the specific gravity of wax being less than water, if we do our pressing under the surface of hot water the wax will float to the surface and thus be out of the way where it will not be re-absorbed by the slumgum. The masses of slumgum should be comparatively thin in order that the wax may more readily be expelled. It is not possible by the ordinary process to extract all the wax from the mass of slumgum for the reason that the interior parts thereof are not subjected to the same compression as the outside portions, the elasticity of the mass opposing and diminishing the actual pressure. Again, as the surface of the mass becomes hard and compact, the escape of wax is impeded. It follows that the interior part of the mass of slumgum is never so cleanly extracted as the exterior portions. Moreover, the power required to compress the mass increases greatly towards the end of the operation, as the more the mass is compressed the more solid and less impervious it becomes, especially on the surface of the mass, and hence the greater the force necessary to expel the remaining wax; and finally capillary attraction will hold a portion of the wax and moisture which it will be impossible to expel with any great amount of force or pressure.

So it is obvious, that, with methods heretofore in use, a certain amount of wax is locked up, as it were, in a safe, requiring a certain combination to open and release it. The writer claims the discovery of this combination, the principles of which may be surmised as follows, namely:

A construction in which the masses of slumgum within the device should be in comparatively thin layers, so that the wax has the shortest distance possible to move to become free therefrom.

A device in which the mass of slumgum can be pressed while immersed in boiling water so that when the wax is freed it will float to the surface.

A wax-extractor in which the pressure may be intermittent, and so arranged that when the pressure is released the slumgum or material may take up water like a sponge, which can then be readily expressed to carry out more wax and this operation repeated until all the wax has been expelled.

A wax-extractor in which the condition shall be the best possible for the slumgum or material operated upon to take up water for the displacement of the wax.

A structure which readily and automatically separates the various layers of material operated upon and relieves the pressure therein when the press is released, so that the slumgum may absorb the water like a sponge in large amounts.

In practice the cheeses of slumgum rest on surfaces of wire-screen, the bottommost one of which rests on springs capable of exerting several hundred pounds of pressure, so that when pressure is applied the springs will continue to squeeze the masses of slumgum as the wax and water are expelled.

There should be several masses or cheeses of slumgum, each separated from the other by a slatted frame covered with wire-screen with a spring at each end to separate automatically the several masses or cheeses when the pressure is released. Above the uppermost cheese is a follower against which a screw works. The cheeses and slatted frames are contained within an iron frame-work which in turn is contained within a boiler of sufficient depth to immerse the cheeses in water. The water is boiled until all the wax in the slumgum is melted. Pressure is then applied, gently at first, to allow the wax and water to run out gradually. The wax floats to the surface where it will not be reabsorbed by the slumgum. The pressure is now released and the cheeses separate, allowing a free access of boiling water. Pressure is again applied and as the hot water is pressed out it brings more wax with it, which floats to the surface. The process of intermittent pressure is continued until the work is complete. By this method practically all the wax may be easily obtained; and in order that I may not be misunderstood I will construe "practically" to mean that not more than 1 percent of the weight of the slumgum, when the extracting is finished, will be wax. That is, in every 100 pounds of slumgum there will remain less than 1 pound of wax which this process will leave if directions are carefully followed. One test of slumgum, after treatment by my method, failed to reveal more than ⅝ of 1 percent of wax, and the cheese from which the test was made weighed between 25 and 30 pounds and was 2 inches or more in thickness. It is not recommended that the cheeses be so thick when the pressing is finished, as the thinner the cheeses are the cleaner the work.

It will be observed that there is no opening of the extractor after it is filled, until the work is complete; no raking or pawing over of the slumgum to expose new surfaces and no excessive squeezing. The wax simply comes out with the water and floats to the surface under moderate pressure where it may be run off through a spout or be skimmed off with a dipper.

Great strides in advance have been made in apiculture continuously ever since the awakening which dates from Langstroth. Wax-production did not receive the attention its importance merited until Hatch, Gemmill, Ferris and the A. I. Root Co., took hold of the proposition in earnest less than a dozen years ago. Much has been accomplished in the introduction of better methods, but the bee-keeping fraternity will not be content until it is able easily to obtain all the wax that can possibly be produced.

Have you 100 colonies of bees, and are working and mussing along in a primitive fashion, trying to save the expense of a modern wax-extractor? If you are so doing, you are wasting, at a low estimate, the price of a good extractor every two years, which means that an investment in a modern wax-machine is worth annually at least 50 percent, besides the convenience in using it. If you have 200 colonies of bees you save the price of the extractor every year.

There is no doubt that over 25 percent of the wax heretofore present in old combs and cappings has been thrown away. In the aggregate, apiculture in America has thrown away hundreds of thousands of dollars worth of wax during the past 25 years. It is time we cease to waste our precious substance. Let's save our wax; it is needed in the sciences and industries, and a good market is always in readiness to take it. O. L. Hershiser.

Dr. Miller—Mr. Hershiser spoke of having a dish in an oven. I would like to know whether he speaks from experience, from observation, or from hearsay with regard to that?

Mr. Hershiser—Heresay. I heard Mr. Abbott speak of it.

Dr. Miller—That would be so exceedingly objectionable. In the first place there would be the danger whenever the wax was melted down in the bottom, of it being over-heated. In the next place there is a very close relative of that, so that I think likely he has got them mixed in some way. That relative is putting a dripping pan into the oven, with one corner cut open and projecting out of the oven, raised a little at the back end, and the wax dripping out into the dish outside. That will hold 4 times as much as the machine mentioned, and be perfectly safe; and while I would not think of speaking of it as an important thing for rendering wax on a large scale, for very many who have only a little to do it is a method not at all to be despised.

Mr. Hershiser—If Dr. Miller would refer to the proceedings of the Chicago-North-western convention, two years ago this winter, when Mr. Huber Root had a paper on "Wax-Extracting," he will find that what I mentioned in reference to the oven process was described by Mr. Abbott.

I want to say another word; that the idea of using springs in the bottom of the extractor in order to continue the squeezing after you have turned the screw down, I got from what Dr. Miller demanded should be a part of a wax-machine, at that same meeting.

Mr. Arnd—This press Mr. Hershiser is talking of, is at our place of business. I think it could be demonstrated.

Mr. Hershiser—I have it up there. It is the first machine I ever made, and it is not a beauty, but it is effective. If any of you would like to see it you can go up there and look at it.

Mr. Sherburne, of Iowa—I extract my beeswax practically without a press. It happened to me in this way: I had a square pan for melting honey; it was made of 10-inch plank. When I had a lot of wax to extract I used it. I put in a lot of water, several inches deep, and start it going. When the water commences to boil I dump in the waste and cappings, and as they melt I take a piece of wire window-screen and put it on top of where the wax is accumulating and commence dipping. I melted all day and dipped as the wax came to the top. Perhaps nearly all of us have seen a sorghum pan boiling. The bubbles start from the bottom and come up through. You can call it a disintegrating process. Those bubbles will come up so fast, if the fire is adjusted properly, it will boil, with those bubbles over the whole boiling surface. As fast as the wax is melted, dip it off over in this other corner where it is not boiling. I have enough so that I can boil all day and dip all the time. By this disintegrating process, the boiling will take the slumgum all out. If you think it will not, try it, please. Now, at the last, I have a square frame to fit nicely, covered with common screen, and I drop it on that and load it down so that it will sink the whole of the slumgum below the surface. If you will let it bubble a while and let the fire die out, in the morning you can take off the remaining wax. The last 2 or 3 days I did that, there was practically no wax in the slumgum; and let me tell you, it would hurt me a good deal if I thought there was some there. I believe I shipped down 300 pounds of wax the last shipment.

Mr. Hershiser—Where do you reside?

Mr. Sherburne—Iowa; a very fine country.

Mr. Hershiser—From the tact that you produce 300 pounds of wax frequently, I would imagine you would have considerable slumgum, and I stand here ready to pay $1 per 100 pounds for it. And I will pay the freight to Buffalo.

Mr. Sherburne—If the gentleman would come after it he could have it for nothing.

Mr. Hershiser—There are a good many bee-keepers that have been in the business a long time, and they are "dead sure" they get all that wax out; and it is just like this: They don't want to sell anybody a gold brick, or even give them one, but all the same, I met one of these gentlemen in St. Louis last summer, and I almost begged of him to let me buy his slumgum. He says, "There is nothing in it; I get all the wax out, and I would feel pretty bad if I didn't. But," he said, "I will send you a barrel of it, and you can try it; all I will ask you is to tell me how much wax you get out of it;" and he extracted it similar to Mr. Sherburne. About 5 weeks after I got back to Buffalo I wrote and reminded him of the promise he had made. He wrote back and said, "I have been extracting wax the last 2 or 3 weeks, and I have about 5 barrels and I will send you one barrel." He said, "If you get 2 pounds of wax out of that 1 you will not get 4 pounds out of all the rest." In due time the barrel came, and such a mucky looking mass I never saw. All the same, out of about 85 pounds of refuse that he sent me I took out 23 pounds of pure wax. I want *your* slumgum for the same purpose.

Mr. Hatch—I will give you a word of advice. Don't let him have it. I have been something of a crank on the wax question. I have talked to every beekeeper that has come to visit me, on the wax-press, and I heartily wish to endorse everything in Mr. Hershiser's paper. I had been using a press myself for quite a number of years, but I realized I wasn't getting all of the wax out, but I can say during the time since I have been using the press I have felt very well pleased. If anyone has 100 colonies of bees I would say that in one season he can pay for a good press by the extra wax he gets; and he gets it nicer. You won't have half as much fuss as this man here, that fusses all day. I can take his wax and run it over and get, I suppose, 25 percent of it, and have it all done in half a day, and have the wax caked and ready for the market. I say, get a wax-press. If you haven't got one, get a bench-screw and make one; it won't cost you more than three or four dollars, and the wax you get is what counts.

Mr. McEvoy—I would like to endorse Mr. Hershiser and Mr. Hatch on that. Mr. Hall used to sweat and work with his old comb, and thought he didn't lose a drop of wax. Mr. Gemmill wanted to bring down his press and try it, and after melting up the slumgum, dish after dish of pure wax came out. Mr. Hall said, "I want that." I have 4 presses, and I have loaned 3, but I could get use for 53 as soon as the people got to know them.

Mr. Ferris—I have had some experience in this line. The gentleman spoke of dipping the wax. I have dipped and dipped all day, and got out every bit of wax I could find, and I had about 1½ bushels of slumgum. I constructed a wax-press mentioned in the "Review," and from that 1½ bushels or 2 bushels of slumgum I secured 33 pounds of as fine wax as you could ask to look at.

Mr. Bartz—I want to say something in regard to wax-presses that has not been mentioned. Those who have not a wax-press, and who render their wax by the hot-water process, would do well to take the comb to be rendered, on a cold day, and put it through fine wire before they put it in the water. Take a sieve made of this common wire, and sift the wax or comb through this sieve into a sack, and the pollen will stay in the sieve. Immerse this pollen in the water and weigh it down with a screen and I am pretty sure I can get more wax by the water-process than I can with the best wax-press now in use.

Mr. Hershiser—I desire to make Mr. Bartz an offer of $1.00 a hundred pounds for his slumgum, and I will pay the freight on it; and I will say that to all.

Mr. Wheeler—I have had considerable experience with a wax-press and wax-extractor. I melt my comb in the Ferris extractor, and press it with the Swiss Extractor, and that works nicely. I have always had in mind something different. If I were a mechanic, and had a factory, I would try a scheme I have in mind, and that is of using the same force in extracting wax as is used in extracting honey, and use steam for heating, and use centrifugal force for extracting. I would like to try it.

Mr. Hershiser—Adhesion and capillary attraction will beat you on that proposition.

Mr. Hintz—I have been in the habit of getting my wax with a solar-extractor. I like that very well, except where we have to get it out of old black combs; and in my experience in that case I don't believe I get very much of the wax. I think perhaps a very large percentage of it remains in the combs. Whilst I have always gotten it out in the old way in water, in a kettle or something of that kind, since there has been so much said about their being so much wax left in the combs, I have rather come to the conclusion to keep my old slumgum.

Mr. Hatch—There is one thing we are overlooking entirely, and that is the advantages of the solar wax-extractor. I think every bee-keeper, especially an extracting man, should have a solar extractor. Not but what you can get all the wax out of the cappings by a press, but they work so easily and board themselves, and cost nothing for fuel. If you have made it on the plan suggested by Mr. J. H. Martin, or "Rambler," you will find your wax all caked ready for market right in the extractor. There is another advantage: You may bring the cappings just as dry as you can get them, and then melt them up for wax, and you will get an astonishing amount of honey out of those dry cappings if you put them into the solar wax-extractor. If you run 100 colonies of bees you will get honey enough out of the cappings to pay for the expense of a solar wax-extractor in one year.

Mr. McEvoy—Three of them.

Mr. Hatch—And if you want to be real careful and watch it, you can save that honey even for table use. As soon as it is melted draw it out and it is all right. If you leave it there it is stronger. I use it for feeding the bees. You can't afford to be without, first, a solar wax-extractor, and, second, a good press, if you are in the bee-business at all.

Mr. Stewart—I am very much interested in extracting wax. I am one of those poor unfortunate fellows that has a lot of foul brood, and that has given me something over 1,100 pounds of wax in the last two years. I have a solar extractor and also a Root wax-press; and while the Root wax-press is a good thing, I know that in my slumgum I buried up more than 100 pounds of wax; and for that reason I have been very much interested in the matter, and was determined to endeavor to find some method by which I could get some of that wax out. I ship each year into the New England States my honey, and go with it and sell it, and I formed the acquaintance of Arthur C. Miller, Rhode Island, and, last year, while there I had a talk with him, and he told me he was working on the lines of a wax-extractor. He said it was something different entirely from anything there was, and something that he had great confidence in, in revolutionizing the wax-tracting business. Going down to New York City, I stopped off this year, and saw Mr. Miller, and saw his machine, and he has it perfected, and they are manufacturing them now. He had as many fifty in the process of construction, and it is so different from anything else that I will endeavor to give you the process upon which he works. The wax-extractor is round, something the same as the Root press. It has an inside can, but instead of being perforated all around, it is perforated only at the top and bottom. That is immersed entirely in water, and there is a cover put on the inside can after it is filled, so that there is no possibility of any slugum coming out. Inside of that there is a shaft running down through the machine, and on that shaft there are flanges, and also on the inside can, and that is soldered fast. He puts a conical shaped cover, and so fitted as to prevent any leakage, and that goes up to a cone. Built out from this is a hot-water tank. There is a shaft running down to the bottom, as it is boiling he turns that shaft slowly, and in that process it grinds the slumgum up as fine as possible. These flanges on the inside and outside can are arranged so that they come together, and they are made of perforated metal, and the slumgum is all ground between them, and at the same time there is a pressure there that presses them. The kettle is boiling, and the hot water which is constantly fed, causes an over-flow at the top. At the top of the over-flow there is a spout that runs down through the hot-water tank to keep it hot; and the wax as it is liberated overflows and flows out at the bottom. Mr. Miller says he can get every particle of wax out of the slumgum. If it will do what he says, it is a great thing for the bee-keepers.

Dr. Miller—I would like to ask whether Mr. Hershiser has made an offer for Mr. Miller's slumgum.

Mr. Hershiser—I never received any offer from him, and never had any correspondence with him. Nevertheless, I would like to try some of his slumgum.

Mr. Acklin—Instead of putting the sticky cappings into the solar wax-extractor, we moisten them with as little water as possible, and strain them and drain them every night, and that seems to give a sweetened water of the right consistency for vinegar. I think the vinegar is the best that can be put on the table.

Dr. Miller—Right in that line I had cappings down in the cellar and they were what you would call pretty dry cappings. But the moisture of the cellar will be attracted to them, and if you let them stay long enough there, you will find that you will get just about every particle of honey that is there. The longer it stays the longer it keeps dripping and attracting fresh moisture to it; and you will get it for vinegar or any use you want to make of it.

Mr. Holtermann—I have not much experience of value in connection with extracting wax, but I would feel like endorsing what Mr. Hershiser has said. The question came up, of the solar wax-extractor, and as far as cappings are concerned, I consider it very valuable, but it has one defect, and that is the constant turning to the sun; and for some years I have had a thought which I believe can be made practicable, and that is, to arrange to have some simple clockword device by means of which that extractor will, upon a pivot, turn itself towards the sun during the day, and will need no looking after in that direction.

Mr. Hatch—I don't change my wax-extractor more than twice during the year. You must have a different kind of sun in Canada from what we have here! My extractor is 3 feet by 4.

Mr. Baxter—The cellar will have to be very damp to get vinegar that way. I have about 10 barrels of cappings in my cellar now. Some of it I washed last winter, and when I got within a foot of the bottom of the barrel it was a solid mass of cappings and candied honey. The only way to get it all is to wash it.

Dr. Miller—That mass of cappings will be held there and the moisture can't get to it. With a smaller quantity there is plenty of chance for the moisture to get all through it.

Pres. Dadant—We would not depend on the moisture in the cellar to moisten our cappings; we want to wash them thoroughly first.

Mr. McEvoy—I had nearly 400 pounds of honey from cappings burned as black as buckwheat. I can make use of that. I have a long capping tank, but, for all that, there is a lot of honey that melts down, and it is too dark to be good honey, so I save it up till spring and thin it with water, and between fruit-bloom and clover I feed the bees with it.

Mr. Frank—I would like to ask Mr. Hershiser a few questions. It is labor-saving that I have been seeking for as much as anything, and I thought I had found perfection in the solar extractor. Now for extracting or rendering wax from cappings, would you think, considering the labor you are saving, that your device would be profitable?

Mr. Hershiser—I used to use a solar extractor, but of late years, since I have been using the wax-press, I discontinued its use. I don't know whether that is a wise thing to do or not. It doesn't take very much trouble to get all the wax out of the cappings with your press. Of course, where you use the sun you save that much fuel. I save labor in reference to the cappings by using my press, from my standpoint.

Mr. McEvoy—You lose the honey in that case.

Mr. Hershiser—I don't know. I put my cappings out a great many times and let the bees carry away the honey. Last year I washed the cappings and got about half a barrel of nice sweetened water, and I tried to make vinegar out of it and it is in the cellar yet, and it doesn't seem much like vinegar.

Pres. Dadant—The experience of each man is different in different locations. There is a difference between the sun of Utah and Canada.

Mr. Wilcox—I have a sun extractor 3 feet by 7, and I save a vast amount of honey from it. My broken combs and wasted honey of every kind go in there, and by drawing it out before it gets too hot it is fit to market, especially that market you will find among wholesale bakers. You can sell scorched honey there at any time, because they must necessarily heat it in baking, and do. The amount of honey you save in melting up the cappings is quite an item.

SECOND DAY—EVENING SESSION.

At 7:30 p. m. the convention was called to order by Pres. Dadant.

The Secretary stated that Dr. Howard had written to him that owing to pressure of business, and so on, he was not able either to come to the convention or prepare a paper.

Pres. Dadant then called on Dr. E. F. Phillips, of Washington, D. C., to read his paper on,

EXPERIMENTAL APICULTURE

It will be well, in the beginning, to find out what the title "Experimental Apiculture" means, for it may be that the thought which first comes to the mind of most persons on hearing these two words is, after all, not what is expressed. When the Secretary of this Association wrote, asking for a talk on this subject, I had only a vague idea as to what I ought to say, but, on thinking it over, this indefinite idea was changed into one more definite, and I came to the conclusion that some ordinary views are incorrect concerning the terms of this subject.

First, let us consider what apiculture is. It is at once answered that, apiculture is bee-keeping. That is true; but all kinds of bee-keeping are not included under the term apiculture. Our fathers owned bees and every fall gave "sulphur treatment" to every skep of bees that would probably not winter. Was that apiculture?

A better definition would be that apiculture is beekeeping with improved methods, which enable man to get the results of the labor of the bees with the least expenditure of labor, and the least loss of bees. That is nearer correct, but there are one or two popular fallacies which, I think, need correction.

It is a common thing in the current bee-keeping journals and standard books on apiculture to see some special method upheld on the ground that it is "Nature's way," and one of the most common criticisms of new methods is that they are "contrary to Nature." Let us examine this form of criticism. "Nature's way" for bees to live is in hollow trees or caves; there are no movable frames, no sections, no supers to be added; queens are never introduced, honey is never extracted, the brood is never shifted, and queens are never shipped. Do we then keep bees according to "Nature's way?" Most decidedly not. Modern apiculture is, and should be, made up largely of methods and practices which are very decidedly different from those of natural environments.

But it may be answered that these things make no difference, for only such things are done as are easily overcome by the bees, and, in all the essentials, we still allow the bees to act according to their instincts. We are now approaching the true conception. It may as well be recognized at once that apiculture is the economic keeping of bees in such a way that the greatest benefit to man may be derived from them, and only such deviations are made from natural methods as can be overcome by the flexibility of the instincts of the bees. We are justified in going just as far as we possibly can from natural methods if necessary, if in so doing we do not overreach the limitations of the instinct.

Care must be exercised, then, in trying new ideas in apiculture, that we do not weaken the vitality of the bees or lessen their productiveness; but, on the other hand, by years of experience it has been shown that man has in many cases made conditions actually better for the bees by wise deviations from nature. I argue, then, that there is no justfication in this everlasting harping after "Nature's way," but we should have done with this idea, long ago discarded in most other lines of breeding, and settle down to improve on Nature, as man has done, and is doing, every day and in all fields of labor in this pushing age.

Let us, then, define apiculture as the science which takes into account the habits and adaptions of the instincts of the honey-bee so that by deviations from Nature man may increase the productiveness of these instincts for his own good.

So much for apiculture; it is now time to find out what is meant by "Experimental Apiculture."

An experiment is a "trial or special observation made to confirm or disprove something doubtful, or an act or operation undertaken in order to discover some unknown principle or effect, or to test, establish, or illustrate some suggested or known truth." There are plenty of unknown things in apiculture even if some contributors to bee-keeping journals write as if this were not so, if they would but tell all they know! Our knowledge of bees is really very limited. Little is known concerning the parthenogenetic development of drones and the determination of sex; practically nothing, of the finer structures of bees, and very little concerning the principles of breeding. There is an abundance of good and valuable work yet to be done on the purely scientific side of bee-life, but Experimental Apiculture, as I understand it, deals with a dollars-and-cents proposition, and the thing which appeals most strongly to the bee-keeper is more pounds of honey. In discussing this subject I propose to deal entirely with the practical side; and the work suggested is intended to lead to commercial results. The bee-keeper can, for the present, do without much theory, but he needs money. I firmly believe that a greater theoretical knowledge would be of benefit to bee-keepers, and more work of this kind would benefit apiculture, at least indirectly, but there is still so much of vital interest to be done along practical lines that we can confine ourselves to that in the short time allotted for this discussion. What is wanted, then, is more honey, and to this we must bend our energy. Instead of speaking about Experimental Apiculture in general, it may be better to give special instances of desirable experimental work in apiculture.

One of the first things which seems to warrant mention is the need of better methods of queen-rearing. Enormous strides have been made in this branch of the apicultural industry in late years but, after all, the methods are crude and too uncertain. During the past summer I have tried, several times, every method of queen-rearing of which I knew, in the apiary of the Bureau of Entomology, and have succeeded in rearing good queens with all of them, but there seem to be some faults in all, and every point at which there remains a chance of failure should be examined, and the method improved if possible. After these trials, I conclude that artificial queen-cells will yield more uniformly good results than natural cells, because the environment is more under the control of the operator; and that mating in nuclei is much preferable to the use of large colonies in decreasing the labor necessary; but we need improvement in our appliances and methods of manipulation. We want more uniformity of result, a decrease in the necessary manipulation, and greater assurance of success, and these, it seems to me, are the things for which to work. The most urgent present need, it seems to me, is an improved combined nursery-and-introducing cage, and a style of mating-box which will rarely require refilling during the entire season, and practically no feeding; and these two things will receive the first consideration in our apiary.

Bee-keepers should know that bees, left to themselves, will not always rear good queens, and the only safe method is to re-queen at least every 2 years, and preferably every year. This is preached enough, I know, but a small per cent of honey-producers practice it, I fear. It need scarcely be added that, a *sure* method of introducing queens—not necessarily one said to be sure, whereby there would be no failures, or even fewer—would result in the saving of several thousand dollars a year to bee-keepers.

The improvement of forage is another thing which needs attention, but this must be dealt with by some one else, for my present work is necessarily confined to entomology, and botanical subjects do not come directly under my supervision. I feel, however, that there is much to be done here. New plants can be imported which will be of great value, no doubt, and, above all, our present forage can be improved in nectar-secretion.

There is room for improvement in hive-appliances, extractors, forage, and other things, but the one place where there is the greatest need for improvement has been generally neglected by bee-keepers; I refer to the improvement of the bees themselves. All bee-keeping is pre-eminently breeding work. The honey is the product and the ultimate object of the industry, but the working problem is strictly one of breeding. The bee-keeper can increase his output by improvment in two places: first, in the manipulation and food supply; and, second, in the bees themselves. Manipulation and food supply are being discussed continually, but we get very little real information on the improvement of bees. I do not refer now so much to the introduction of new races, but, particularly, to selection of breeding stock.

The Italian race of bees was introduced into this country about 1860, and the credit for this important introduction need not concern us at this time. The important thing now is to examine the situation to see how much this race has been affected by breeding in the hands of the bee-keepers of this country since its introduction. From about 1860 on, there has been, in some quarters, an interest in breeding this race for color and this has been done very successfully, several different breeders having taken up this line of work and succeeding, by selection, is producing 5-banded Italians. As an example of what can be done by careful selection among bees this work is of value to us. Other breeders have selected for gentleness, and, since this character is not as measurable as color, it is harder to make definite statements concerning the results obtained, but it is evident that, either intentionally or accidentally, some good has been done along this line.

But the main object in the keeping of bees is honey-production; how much has the average output per colony been increased in the past 45 years? Every bee-keeper knows that the more populous the colony during the honey-flow the more surplus honey stored, other things, such as honey-flow and weather, being equal. The problem, then, reduces itself very largely to the fecundity of the queens, and the question may be changed so as to ask how much the prolificness of Italian queens has been increased in the past 45 years.

DR. E. F. PHILLIPS.

Another very important factor in honey-production is the eagerness with which bees go after nectar; and a third is the tongue-length, enabling them to reach the nectar in long corolla-tubes. Italians lack the eagerness which is possessed by Cyprians, but there are Italian colonies which have it to a marked degree. Several strains of long-tongued or "Red Clover" Italian bees have arisen in the past few years, but what is the history of the strains? When a queen is sold and introduced into a honey-producer's apiary, before many generations, the progeny cease to work on red clover, if they ever did; for the reason that proper selection is scarcely ever practiced, and there is not close enough inbreeding. This is certainly due to lack of proper methods in following up the breeding.

We may conclude, then, that prolificness, vigor, and tongue-length, which frequently appear in Italian bees, are not ordinarily used to proper advantage by the majority of bee-keepers. Anyone reading the reports of the early Italian importations will see that the average per colony, throughout the country, is not much better than it was 45 years ago, and in some strains there is reason to believe that it is less. Of course this is not true in certain apiaries, but I feel sure this holds for the country in general, and I am inclined to think that prolificness in some strains of this race is actually decreasing.

It is natural that we should want to know why this is. There is but one answer, it seems to me, and that is that queen-breeding in honey-producing apiaries, is usually not done with a knowledge of the common principles of breeding as practiced on other animals and on plants. Careful breeders of almost every other form of domestic animals know to an ounce what their stock produces, but how many bee-keepers can give this sort of a record? and it is commonly recognized by breeders that without records they work in the dark.

Breeding of both plants and animals with a view to the betterment of stock is now attracting wide attention; this work is not confined to experiment stations and wealthy individuals, but the farmers of the country are recognizing the fact that there is more money in choice stock than in scrub animals. Let me quote General Burchard, associate editor of Hoard's Dairyman, a short extract of an address to dairymen of Wisconsin, what he called "The Cow Breeder's Shorter Catechism":

"Q. How many kinds of cows are there? A. Three.

Q. What are they? A. Dairy cows, beef cows, and combination cows.

Q. What is a dairy cow? A. One that has the ability to turn all the food she may eat and digest, over and above that required for maintenance, toward the udder, there to be transformed into milk.

Q. What is a beef cow? A. One that turns her surplus food into flesh and fat.

Q. What is a combination cow? A. One that tries to take both forks of the road and never gets anywhere.

Q. What causes the difference in cows? A. Heredity.

Q. What is heredity? A. The biological law by which living beings tend to repeat themselves in their descendents."

Cattlemen realize that they must breed for one thing in cows, and I believe that bee-keepers should settle down to one line of selection. Honey-production, gentleness and color, do not necessarily go together, and the chances of finding all these combined in one colony are small. Which should be chosen? Honey is the object of most bee-keeping, and that then should be the one, and the colony line of selection for the honey-producer. You may arrive at this by selecting prolificness, or tongue-length, but not both without great difficulty, and, therefore, prolificness, which is vitally necessary, should be the first consideration.

In the extensive work of the Maine Experiment Station on egg-laying in hens it has been found that some of the best formed hens were poorest in laying ability, and *vice versa*. They, therefore, select for number of eggs and let everything else go. In this series of experiments they begin with a flock with an average of 120 eggs per year, and now have many individual hens which produce from 200 to 250. This, too, has been done in a very few years.

The application of statements concerning stock may be transferred to bees, and, therefore, does it not seem time for the bee-keepers to arise and join the procession? Let the honey-producer drop all fads of color, gentleness, and similar things, and breed pure stock for honey, and no longer aim at an "all-purpose" bee.

Allow me to mention here an institution worthy of notice. There was started, about two years ago, an organization know as the American Breeders' Association, and breeders of both plants and animals are uniting in the study of the principles of breeding with a view to improvement of their stock. Breeders of all kinds of plants and animals have seen that they have interests in common, and there is absolutely no ground for a belief that the same principles of breeding do not apply to bees, and I believe no one claims it, yet none of our queen-rearers have seemingly cared enough about the information to be derived to pay the one dollar membership fee which entitles the member to a volume of proceedings worth $5.00 to any breeder. According to the directory in the first volume, the total number of members interested in bee-breeding is one, and that one is not included in the last published list of members of the National Bee-Keepers' Association. I am happy to say that since then one other person interested to some extent in bees has joined, and he is also a member of the National. I would urge that the National Bee-Keepers' Association join the Breeders' Association, and then let every member who cares anything at all about the improvement of his bees do likewise. The fee is small and the benefit large. This scarcity of bee-keepers may be due to the fact that the organization has not been properly mentioned in bee-journals. I trust that the editors of the journals will look into this Association, and then give it a little free advertising, for it is a worthy object and is in no sense a commercial enterprise. The editors can do great good in a matter of this sort because they have an easy means of access to the men who should be interested.

Since much scientific work has yet to be started in queen-breeding, it may not be a miss to enumerate some of the approved principles of breeding and apply them to bees. You will notice that I say queen-*breeding*, not queen-*rearing*, for there is a vast difference.

The two great factors of all life, both plant and animal, which make improvement possible are *Variation* and *Heredity*.

It is proverbial that no two individuals of any one species or race of animal or plant are exactly alike, and this of course applies to bees. During the past winter, I examined 500 workers and 1,000 drones, making in all between 5,000 and 6,000 measurements, and the results showed remarkable variability in this species. Drones vary considerably more than workers in color and size, and, although I did not have large numbers of queens to measure, it is well known how variable they are. These measurements were of structures, but equal variability is present in the ability to do work, either of egg-laying or honey-producing, as witnessed by the inequality in stores and population of different colonies. There is, then, enough variation.

The other great fact in nature which makes it possible for man or nature to improve a species or race is, at first thought, directly opposed to the foregoing. "Like begets like" is also true. A prolific female produces daughters that are also prolific, though not all to the same degree; but it is an established principle of breeding that excessive prolificness in a female tends to produce in her offspring prolificness at least above the average for the race. If variability existed without this hereditary tendency, no improvement could be made, for at every generation the individuals would again vary in all directions. On the other hand, heredity could do nothing for us in our work of selection were it not for the fact that variations occur, but around a new center, as it were, in each generation during selection.

The weeding out of undesirable stock is the greatest task of the queen-breeder. He must pursue his work by (1), inducing variation; (2), producing large numbers of individuals; (3), weeding out all undesirable blood by breeding from but one, or very few select animals; and (4), fixing the type. In queen-breeding this means that hundreds of queens must be bred and tested every year, and a very few chosen to continue the work during the following season: it does not seem best to use as small numbers as do most queen-breeders. The Funks in their work on corn-breeding tested 5,000 ears, which bore no relation to each other, and chose *two* as breeding stock. Luther Burbank, the wizard of horticulture, advocates even larger numbers, having chosen 1 in 10,000 from among some of his plants. In queen-breeding we are more restricted by the limitations of any locality, but I think I am right when I say that a breeding queen should be the best in at least 500 tested queens, and the test is to be made by the actual amount of honey produced in a year as compared with the other 499, always assuming, of course, purity of stock. Cattlemen use scales and the Babcock test as the only safe method of choosing the dairy cow; let us use scales in our judgment, and disregard color and other fads when rearing honey-producers.

For "fancy" bee-keeping, as practiced by many amateurs, color or anything else that attracts may be used.

Since mating cannot be controlled in bees as in mammals, it will be necessary to have several colonies producing drones, but every colony chosen for this purpose should have a high honey record of at least one year's standing, and the queen should be quite as good as the breeding queen. The majority of bee-keepers are notoriously lax in this regard. In many cases the drones of every colony in the yard are allowed to fly, and just so long as this is done we will have no advancement, for this one-sided selection is working against odds that the bee-keeper cannot overcome. In defense of such loose methods some queen-breeders argue that a very large number of drones are necessary and that they can be procured in no other way. During the past summer in 16 colonies in the Arlington yard, of the Bureau of Entomology, I produced enough Caucasian drones to stock a queen-breeding yard with an output of 2,000 queens a year, and this could have been done with half that number to advantage. I may also add that pure matings were secured in the very large majority of cases, although that apiary is far from being isolated; mention this to show that more drones are unnecessary.

We have pedigreed horses and cows, and even pedigreed corn and wheat; why not pedigreed bees? I think I am not asking too much. I hope the day will come when the breeders will advertise as follows:

"I am this year using my celebrated breeding queen Smith 168, which is the mother of a colony which last year produced 50 per cent more honey than my average colony. This queen is the descendent of 6 purely mated queens, all of which were mothers of colonies producing over 300 pounds of honey a year. For drones I am using 5 queens, all of which are mothers of colonies which last year produced over 300 pounds each."

This is not visionary by any means, for it is exactly what breeders of other stock are doing; and it is pleasant to note that some wide-awake queen-breeders are doing almost that now.

There is the recorded case of a colony producing 1,000 pounds of honey in one year; of course this was in a good season, and under careful manipulation, but think what a valuable queen was lost when that queen was not made the mother of a long line of breeders to be distributed all over the United States. Few honey-producers are so situated that each colony can produce any such amount of honey, but it is necessary to aim high.

There are two points which require additional consideration. The first is the desirability of breeding the race pure. Crosses or hybrids are so variable that they should be avoided except when necessary. Let me quote from Dr. W. E. Castle, of Harvard University, on this point:

"Since cross-breeding is likely to modify characters even when these conform to the laws of alternative inheritance, and is certain to modify them when they give blended inheritance, it should be practiced with extreme caution, and only by the breeder who has a definite end in view, and a fairly clear idea of how he is going to attain it.

"The purity of standard breeds should be carefully guarded, and much attention should be given pedigrees, for even when individual excellence is not apparent, it may be present in recessive or else in a latent state, which suitable matings will bring into full realization, provided the ancestors were superior animals.

"At the same time the breeder should be on the lookout for individual peculiarities of merit. And he should not be discouraged if these are not transmitted to the immediate offspring. A simple character which disappears from the children, but reappears among the grandchildren, can at once be made a racial character, for it is recessive in heredity."

The breeder who uses a mixture of races for breeding is doing something which is very likely to cause him trouble. There is very little necessity under present conditions for this, since a good race may be chosen as a foundation stock which can be surpassed by crossing, only with difficulty, and careful and systematic selection within the race will bring almost as good results with the great advantage of more stability—a point of vital consideration. Let me make this point a little more clear. There is reason to believe that, where some queen-breeder takes up the improvement of bees by crossing, he will outstrip all the rest. He will induce greater variability, and will, consequently, have a greater range of material for selection; he will be enabled to combine the desirable traits of two or more races, and, at the same time, if proper care is used, eliminate the undesirable traits. This can be done purposely only by a person who has a most thorough understanding of heredity and variation and no one else should undertake it, for there is otherwise too great a danger of bringing out all the undesirable traits and losing the good ones. This, then, is why pure races are generally so essential; when the proper men take hold of crosses they will get great results, but the majority of breeders should not risk the handling of fire in that way, and, as for the rank and file of bee-keepers, it is, I think, absolute folly. A bee-keeper may say that he cares nothing for races; that all he wants is honey. All this is very true, but he cannot afford to overlook the fact that nature has laws which he, with all his independence, dares not disregard. I consider the bee-keeper who fills his apiary with what we may call scrub hybrid stock as a poor bee-keeper.

The second point is the common prejudice against inbreeding. I can do no better on this point than to quote from Mr. N. W. Gentry, who is well known as an extensive breeder in Berkshire hogs. Mr. Gentry has for years practiced inbreeding, and before the Champaign meeting of the American Breeders' Association, in February, 1905, he said:

"From father to son for generations has been handed down the common belief that inbreeding of animals produces offspring of less vigor, less vitality, less constitution in proportion to the extent to which it is carried on continuously, and this belief seems to have been accepted as true without any proving by the very great majority. My experience has led me to believe otherwise, or rather that such results need not necessarily be true.

"Neither inbreeding nor the reverse will be a success unless matings are made with animals suited to each other, that is, having no weakness in common, if possible, and as much good in common as possible. This, in my opinion, is the key to success in all breeding operations and success will come in no other way. In my opinion inbreeding as a rule is very good or very bad."

"I have watched results of inbreeding in my herd for years, and until I can discover some evil effects from it—and I have not yet—I shall continue to practice it."

Mr. Gentry has one exceptional boar known as Longfellow 16,835; he says concerning the stock:

"In my breeding operations I reasoned that if the Longfellow blood was the best to be found (and I have no reason to change my mind yet), and, if I used a boar not related at all, as most would advise, I would lose at first cross half this good blood, and upon another like cross a quarter more, leaving them only one-fourth the Longfellow blood. This I reasoned would be losing a good thing too rapidly. I think I have continued to improve my herd, being now able to produce a larger percentage of really superior animals than at any time in the past."

In breeding it is generally believed that inbreeding is detrimental or fatal, but, fortunately, breeders are now seeing that the idea is usually without foundation. Of course, inbreeding accentuates common weaknesses but we should use it in accentuating strength, as it will when properly directed. Think what it would have meant to bee-keeping if the blood of the Cyprian queen whose bees produced 1,000 pounds of honey had been preserved by inbreeding; and what it will mean if some of the present good queens are kept by this method. I do not advocate universal inbreeding, for it is well known that inbreeding is, generally speaking, not natural, but, even in nature, it is frequent, and it is by no means universally true that it is detrimental. Therefore, if there is reason to think that it is best, it should be fearlessly practiced. How this prejudice against inbreeding arose, I do not know, but we all know how general it is. Nevertheless, it is true, that the breeders of stock who now practice it are the ones who are getting results of lasting value. On one or two points, I do not wish to be misunderstood. I do not wish to condemn the breeding for color or for long tongues. I really consider color selection a fad, but there are those who prefer the lighter colored bees, and as long as there is a market it will pay to select them. Long tongues would be an advantage doubtless but in whatever way we are breeding let us not forget that increased honey-production is the essential. If these bees have longer tongues, all right and well, but the selection should be made by the scales.

Now you may ask whether in the work of the Bureau of Entomology this problem is to be taken up. I can make no promises for the future, for I am not in a position to outline future policy, but whoever takes up scientific breeding of bees will do a good work, and results seem certain enough. It is not my purpose to confine myself to promises for I do not like to make promises for fear that I may not be able to fulfill them, but I hope this may be done by some one. It may not be out of place to say here that the idea of having any outside aid for this work which it was suggested that I do, was entirely that of Professor Cook and had neither my sanction nor approval, either before or after publication. I desire no such assistance.

But to leave general experimental apiculture, it may not be amiss if I speak of the work of the Bureau of Entomology since I am a representative of that branch of the Department of Agriculture.

During the past few months some work, which may be of interest to the members of the National Bee-Keepers' Association, has been done and I will briefly outline it. Most of this is to be considered merely as tentative, since the investigations are not yet completed, but some idea may be got out of what has been done recently. I will report only on the past and leave the future till a later date.

The best methods of queen-rearing have occupied most of the time during the summer. I have tried several times every method of which I could learn and have tried to test them impartially. I am convinced after these trials that by the use of artificial cell-cups we can get more uniformly good queens than by any other means. For mating nuclei I prefer a comb area about equal to one standard Langstroth frame, divided into 3 frames with about 500 to 800 bees. The style of box is relatively unimportant. I have prepared a short bulletin on this subject which is ready for distribution, and I will take pleasure in sending it to any one who requests it. I can say that the illustrations are fine, since I did not take the photographs myself, and they alone show most of the methods more clearly than is possible in a description. This will be sent to all persons on our mailing list, and any person interested in bees may be included in this list.

A considerable number of queens of the Caucasian variety have been distributed during the summer. These bees certainly surpass any other race, known at present, in gentleness. As to honey-production, not so much is known but I have received some excellent reports. I think there is a great future for these bees, and good queen-breeders are taking hold of them. If selected for honey-production, according to the ideas which I gave a while back, I believe they would be the most popular bee we have for city bee-keepers, at least. There seems to be an idea among some of the bee-keepers that the Bureau of Entomology claims that these bees are the best bees known to apiculture. These bees have been recommended for gentleness, and no exaggerated statements have been made either by Mr. Benton or myself, as far as I am aware.

Let me quote from Mr. Benton's Farmers' Bulletin No. 59:

"Caucasians are natives of that portion of Russia lying between the Black and Caspian Seas; are exceedingly gentle, good workers, good defenders of their hives, prolific, build many queen-cells, and swarm often if confined to small hives. They are dark gray in their general color, although the workers show frequently one or two yellow or leather-colored bands; are somewhat smaller-bodied than Italians or Carniolans, have good wing-expanse, and hence are nimble flyers. The drones are rather small and quite dark in color, queens not large, and varying in color from a coppery yellow to a dark bronze."

At the St. Louis convention these bees were discussed from the published statements. I cannot see that too much was claimed for them. It is too early to prophesy as to the ultimate future of the race, and above all they should not be condemned without cause as has been done. Of one thing I think I can be sure—unless care is used in selecting breeding queens of this race we shall hear the bees condemned when it will be the fault of the breeder. This is why I am anxious to see these in good hands until they are tried out.

There has been some misunderstanding as to the method of distribution of queens by the Bureau. The Bureau of Entomology should not, I think, give away any queens which can be purchased in the United States, and thus interfere with the business of the domestic breeders. The regulations concerning this distribution have not been well outlined, and, after consultation with others who have conducted government distributions, I, therefore, drew up the following plan which has been approved by the chief of the Bureau and by the Honorable Secretary of Agriculture:

"To any experienced queen-breeder who will guarantee to rear queens and mate them purely in considerable numbers for general sale, the Bureau will send, as far as the supply will allow, one high-grade breeding queen, purely mated and carefully tested. In addition, several queens whose matings are not known will be sent for drone-production, since drones are not affected by the mating; all queens, however, will be from good stock, the number to depend on the supply at hand. The breeder making the request must give evidence of his ability to rear good queens, must agree to offer at least 200 pure-bred queens a year for sale to the general public, and must not ask for them an exorbitant price. It is the opinion of the Department that 20 percent more than the current price for Italian queens would be fair. It will also be expected that in future years the breeders will do their utmost toward the improvement in honey-production, at the same time maintaining the purity of the races. The Bureau will be glad to aid breeders of this class to its utmost ability, but will not aid in any way a breeder who offers for sale or sells crossed hybrids of the various races, except in the case of untested queens, and even in that case, every possible effort should be made to get pure matings.

"After this distribution all inquiries to the Bureau will be answered by giving a list of reliable breeders, including those who have received stock from the government apiary; and the name of any breeder who knowingly sends out inferior stock will be dropped. It is not the purpose to interfere with the private business of the persons receiving queens, but these precautions are taken to protect the bee-keepers of the country.

"No applications for queens under other circumstances will be considered. All applictaions will be considered in the order of their receipt."

I trust that this method will seem fair and just to all, for it is my desire to give everybody a "square deal," and I do not care to distribute queens merely to give something away. I also hope that by this method we may be able to induce a good many first-class men to take hold of this work. I will do everything I can to aid the right men, but careless breeders, and those who give second-grade queens to their customers, need not apply. If I could give you a list of the persons who have written for Caucasian queens this summer, I am afraid you would all go into the business. The present demand is due to notices in ordinary newspapers which were caused by the extreme gentleness of these bees. This is not the kind of fame which I desire for bees being distributed.

Caucasians, Carniolans, and Cyprians are now being included in this distribution, as will be any other races which may be obtained in the future. The Banat, or Hungarian, bees which are also very gentle, are being tested and may be worthy of distribution, but that remains to be seen. If they are, they will be included.

During the summer I found some lesser wax-moths, *Achroiagrisella*, and began to breed them in a wire-cloth cage. They behave in much the same way as the other large wax-moth, *Galleria mellonella*, but I think they are more inclined to burrow in the brood-chamber. I asked for information concerning the distribution of this species, through the American Bee Journal and Gleanings in Bee Culture, and received reports of them from various parts of the country. They are doubtless found elsewhere for they have been introduced into this country several times, and seemingly have later disappeared.

Bee-diseases have received some attention also. Owing to the fact that I have entered the service of the Bureau late, I was not able to get started on this work very early in the summer, and consequently have been handicapped, but the work is of vital interest and worth continuance. Through the kindness of several men prominent in apiculture, I received a large number of samples of diseased brood. The Bureau of Animal Industry, at my suggestion, assigned a competent bacteriologist to this investigation, and between us we have been getting a fair start. So far the results are briefly, that *Bacillus alvei* has been found in every sample of "black brood" and not a single case of foul brood, confirming the work of Doctors Veranus A. Moore and G. Franklin White, of Cornell. No characteristic germ of foul brood has been found. In one sample, from foul brood, which was unmistakably contagious, sent in by my assistant, Mr. John M. Rankin, who is in California, we found a bacillus resembling *Bacillus alvei* in many respects, but on cultivation, it was found not to be the same. When fed to a colony it did not produce the disease, although the feeding continued for over a month. The final outcome of this investigation is still unknown, and I present these few facts merely that you may know what is being done. There is much confusion on the subject of the germ brood-diseases in this country, and I hope it can be straightened out. Evidently bee-keepers confuse these names, or possibly the foul brood of Europe and Canada may not be the same as our foul brood. Please remember that I do not make this as a definite statement: I merely say that we cannot find *Bacillus alvei* in so-called foul brood. The germ *Bacillus alvei* itself is well known, and its characters have been well studied, and what now remains is definite knowledge of its distribution and exact information of a working nature so that the bee-keeper will know just what he can do with the disease. This is the work which must be done. It is very desirable that a large number of samples of brood-diseases be examined from all over the country, and I hope that any members of the National Bee-Keepers' Association who have any such trouble will be kind enough to send me samples. For the present I could do nothing more but report on the presence or absence of *Bacillus alvei,* but I shall be glad to do that as soon as the examination is made. We cannot receive too many samples, and I shall ask your cooperation during the next season.

The so-called "bee-paralysis" has come in for its share of investigation, but I regret to say that I cannot as yet even suggest a cause. No pathogenic bacterium has been found in bees which died of paralysis, and I do not think that there is evidence that *Bacillus gaytoni* has anything to do with it. The theory that certain plants were poisoning the bees and causing the symptom of paralysis, was also investigated, but I failed to produce the disease when bees were fed on honey mixed with the characteristic alkaloids of these plants. In the meantime I have gone over every word of the literature on paralysis that I could find, and while it is hard to judge from descriptions, which are generally not clear, I am inclined to the belief that several different troubles are combined under the word "paralysis." I sincerely hope that some one can tell us something about this disease before another summer passes, and I would respectfully request that any of the members of the National Bee-Keepers' Association having the disease in their apiaries next summer would notify me and make careful observations. I shall visit some regions where the disease is at its worst, if possible.

A series of experiments on feeding has been begun in which sugar solutions of different strengths are used for the purpose of determining to what extent the cane-sugar or sucrose is inverted by the bees into reducing sugars, such as for the most part are the ingredients of honey. So far I have been able to get results from only one experiment in which sugar was fed in a 50 percent solution. In this case the water was evaporated until 80 percent of the solution stored was solids, and 15 percent of the total volume was unmodified sucrose—an amount which would at once show a chemist that he was dealing with an adulteration. The remainder of the sugar was the same as that found in honey. These experiments are now being continued indoors, and it is too early to tell what will be the result. If the results are exact enough in the sugar analysis it should be possible to answer that much-guessed-at question of how much honey is required in the secretion of one pound of wax, since in some cases the bees are allowed to build combs.

During the past winter, while Mr. Benton was in the office, packages of seeds of honey-producing plants were sent out to about 500 bee-keepers, but only a few of the reports are in yet, and I can give you no general statement of the result. Some glowing reports have been received of Sainfoin and Serradella as valuable plants, and they seem worthy of investigation on the part of every farmer bee-keeper.

Last June there was established, on the recommendation of Mr. Benton, a sub-station for apicultural work at Chico, Calif., with Mr. J. M. Rankin, Special Agent, in charge, for the purpose of studying special conditions in that State. Mr. Rankin spent some time, during the summer, working on paralysis, but found it more rare this summer than it has been for 16 years, and consequently any definite results were impossible. At this station certain features of our work at Washington are to be repeated as a check. The main difficulty in this station, is the distance from Washington, which makes it difficult for us to keep in close touch.

In his address last year before this Association, Mr. Benton spoke of the establishment of an experimental apiary at Arlington. This plan was somewhat modified, so that the main apiary of the Bureau is in Washington, with an out-yard at Arlington for the mating of queens to Caucasian drones. In addition to this, permission has recently been granted for the placing of colonies of bees on another farm of the Department of Agriculture, 6 miles north of Washington, for the study of diseases, such as foul brood, black brood, and paralysis, where there is absolutely no danger of contaminating our own bees or those of any other bee-keeper. In this way fresh samples are obtainable, for it is often hard to examine combs after they have been in the mails several days.

As you know, Mr. Frank Benton, Apicultural Investigator, left early in June on an extended trip after new races of bees, under the direction of the Bureau of Entomology. Mr. Benton visited various European countries, and we, from time to time, received queens from him. The uprising in the Caucasus delayed him somewhat, but he finally reached that country and got several queens which, for the most part, reached Washington alive. He expects also to visit India and the Philippines to study the giant bees of the genus *Megapis* before returning, and will send some of them to the United States, if possible. It is certainly to be hoped that he will be able to settle once for all the question, which has been so long debated without many facts one way or the other, as to the desirability of introducing these bees.

Last spring Mr. Benton conducted a rather heavy correspondence with the different manufacturers of cake chocolate, with the idea of inducing them to use honey in place of cane-sugar. Various ones promised to try it, but nothing was done. On Mr. Benton's departure, this was turned over to me, and I visited the Stephen F. Whitman Co., of Philadelphia, when in that city on other business. They took up the matter and report that they have tried in every way to do this but that it is impossible. They, of course, recognize the desirability of using honey, but claim that their machinery is not adapted to such use. It was hoped that this would open a market for a large quantity of honey, but the effort was without success.

During the summer a good deal of routine work was necessary. The mailing list of the office was badly in need of revision, and that took considerable time, and, in addition, as far as was possible, a complete list of queen-rearers, bee-disease inspectors, bee-keepers' societies, and supply dealers was made. These things are necessary in order that we may know just the condition of affairs in the bee-keeping world, and are of great value in the work. At present, back volumes of the American bee-keeping journals are being carefully indexed, which will save much time in looking up any subject. Of course, such work has to be done when there is a lull in our rather heavy correspondence.

In conclusion, I wish to express my personal appreciation of the help which I have received from bee-keepers in various parts of the country since I have been connected with the Bureau of Entomology. Without such kindness it would be difficult to accomplish anything, and I can only assure you that I shall do my utmost to advance the interests of the industry with your help. I shall appreciate any criticism which may be made of my work, as long as it is based on facts, and shall endeavor to profit thereby; but I ask for neither praise nor blame from anyone who does not know what he is talking about. Let me especially ask for your co-operation in the bee-disease investigation during the coming summer.

E. F. Phillips.

Dr. Miller—I believe that if anything is done to amount to very much in the way of improvement, such as Dr. Phillips has been talking about, it will not be so much by some one special person, as it will be by the rank and file taking hold of the matter. So many seem to get the idea that it will be a queen-breeder. I would like to call special attention to this distinction between queen-breeders and queen-rearers. I would like to ask the question, What percentage of queen-breeders are there among queen-rearers? I don't want to press that question, but I believe all of us to a certain extent can become queen-breeders; and when the rank and file do that, then we will begin to have advancement and improvement in our stock. I do feel like heartily thanking Dr. Phillips, and I wish all who feel with me like thanking him to signify it by a rising vote of thanks.

[The members of the Convention arose, and the suggestion was greeted with applause.]

Mr. McEvoy—I never heard a paper in my life that I liked so well as that one.

Mr. Moore—Dr. Phillips, in his very excellent article, has touched on a point that I think we are all intensely interested in, and we have with us one who has perhaps the best experience of any person in this country, and I would suggest he now address the convention on his personal experience in connection with foul brood. I refer to Mr. Wm. McEvoy, of Canada. [Applause.]

Mr. McEvoy—I could not help but take keen notice of what the Doctor was saying about these different kinds of brood—black brood and foul brood—and I can not help but think that there were many mistakes made in some of the kinds that were sent; that they were mistaken for something else. It has been thirty years since I first handled foul brood. In 1875 it broke out in my own yard, and I worked out the cure I have given to the world on that.

Speaking of the kind of dead brood, I meet it every year. Last year all over Ontario and in many parts of the United States there were immense quantities of dead brood mistaken for foul brood, and by many that had had it before, and felt sure they knew what they were talking about. It was simply starved brood. After the apple-bloom failed, for a long period before they touched clover, in many places they started brood, and they ran out of unsealed stores, and when they are caught like that they will not uncap the old honey fast enough to keep pace with the amount of larvæ; the result is death. Part of the brood is well fed, some of it is starved and some does not get enough just before it is capped. Some of them will die under the cappings and some hatch out, and you cut the cappings and it will be recapped. The bees are poorly fed. Every year I have been called out in connection with these cases, and I found no foul brood. For every 4 or 5 cells of foul brood you will find 19 or 20 starved in the comb, and this is what causes mistakes and confusion. They say, "Oh, I have had it before and the bees cleaned it out." But sometimes it *is* foul brood, and it will clean the yard out, and it is just as well to be careful of what they get hold of. The bee-yard is no place for a burying ground or a graveyard. But I would advise that you sacrifice your bees by treating the whole yard as dead brood. Let us go to work and feed them, and give them a double shake.

There have been men in Ontario and the United States who have treated it for foul brood when it was starved brood, and it was feeding that it wanted. This treatment only aggravated it, and it still did not get enough. If the bee-keepers will feed they will not have this ordinary dead brood. Some queens are good feeders under poor circumstances, and others, again, are poor feeders under good circumstances. I have never heard a paper I liked better than that, especially where he spoke of breeding, and I do think 90 percent of all the queens on the continent of America want killing. I like the bees that under trying circumstances will feed the larvæ well; and in feeding that larvæ in these periods we will have bees that will double the honey crop. It will pay to feed during these periods. But come to the disease, that is what so often causes the confusion; it is this finding of so much dead brood. There is lots of it this summer. It took a dark color and almost a blue nature, and it would stretch almost a quarter of an inch; but hadn't the stench, although it had a pretty heavy odor. I notice that, all over, the bee-papers speak of so much chilled brood. That was a little out of place. It was *starved.* The flow shut off, and the bees didn't uncap the old honey fast enough. Feed during these periods, and it means a good deal. Feed, and watch the results, and you will see how fat, and plump, and white the larvæ are. That which is half starved, you will see little hollows that you can put the head of a pin in.

I have not in 20 years opened a hive of bees, but what I have taken a close look; and some places they have said, How do you find the queen? How do you like the color of the bees? I didn't look at the bees. I could see how they were feeding the larvæ. Come to find out, they had gotten the queen from certain parties in the United States; and I would say, kill every one you have got and breed from this good one. The Doctor is right.

The treatment I give is the only practical one. Drugs are of no use. Don't be deceived with drugs. You can't cure any apiary if it is bad. You may use gas, and so on, but where they fill the comb and fill in on the hard crust old foul brood and cap it over, you can't kill that and make a success. The only way to do is to take away the combs and follow the bees for the honey they take from the combs, and let them build combs for days in bad cases. Now put the honey and case in the bee-yard, and give it one shake and it will generally cure it; but there are also several that would fail, because the next thing they do when they get weak is to fill in the center. The honey to become diseased in a bee-hive must first of all be stored in a diseased cell. Nearly all the honey in the top of the comb is sound. Why? It is clean honey from the fields in queen-cells. But where it is stored close to the ring, in on the old crust, that is where the disease is.

Mr. Lyons—Do you consider pickled brood has the germ of the disease?

Mr. McEvoy—I never like to say anything about any one else's treatment. If you do the feeding at the proper time you will never have pickled brood. You feed now at the close of the honey-flow and help your bees up the hill. The spring of 1889 was one of the most favorable springs in Ontario. Things went booming along. On May 28 came frost, which was followed by 3 or 4 days of rain. I said to all the bee-keepers, the brood-chambers will be a mass of dead matter. The bees are caught out, the brood-chambers are full, and they are going to use up the unsealed honey; they won't uncap the old stores fast enough, and great starvation will take place. All over Ontario they were spreading, and they had foul brood, and dead brood, and everything, and run short of the honey crop. The last two weeks in May and the first week in June, in 1894, we had three weeks of rain, rain, rain all over Ontario. During that time the bees run short of bringing in stores to keep pace with them, and that year there was a lot of dead brood all over Ontario the same way. Then last spring was a bad one, and the spring before. There is not enough attention paid to help the bees during that gap.

Mr. Lyons—That has been exactly my experience this spring. I had 50 or so of those Alexander feeders and I put them right on after fruit-bloom and it worked very well.

Mr. McEvoy—Pickled brood will turn on its back and turn up. You will notice some of the cells thin capped. The bees as much as uncap and say, What is the matter with you? You will find in some cells that a cap is not cut. The bees have not enough strength to move the jaw. Feed will save all that.

Mr. Rice—Wouldn't uncapping honey answer the same purpose?

Mr. McEvoy—Yes, you are right. That is business, and I do that, too; and I would rather do it while there is honey. Give 2 or 3 frames; do not bruise or scratch it; shave that off neatly and then it will not run. Skip the next night and then give 2 or 3 more frames. Take a jar and turn it upside down and put it on the center of that, and you set that food down where the bees most need it, and feed continuously. In 1894 I tested it. I was feeding, and the food kept going, going, going, but there was a little drawback about it, that got onto the honey-flow and at last my out-yard nearly went to pieces. But the bees were vigorous. You will get these bees from a fed colony that will come right down in showers. There is a vim, and a snap of life in the bees that are fed, compared to what there is in the others. It is best to feed in this bare period.

Mr. Moore—I wish Mr. McEvoy would help us clear up this question as to the difference between foul brood and black brood, and what bearing it has to a layman; and as to *bacillus alvei* being found in foul brood or black brood?

Mr. McEvoy—I am not able to tell that, when it comes to black brood; I have seen it, and handled it, and treated it the same as the other. When you speak of a specific germ, you are going beyond me. You will have to take the scientist for that. But in either case this treatment has got to come in. No drugs will be of any use with foul brood.

Mr. Hatch—I understood Mr. McEvoy to say that there would be no such thing as pickled brood if we feed between fruit-bloom and clover bloom.

Mr. McEvoy—You will never have pickled brood under those conditions.

Mr. Hatch—I found it in California. I had 250 colonies in one location and I had, half a dozen times, at least, right through the honey season, pickled brood. I had the same thing in 3 apiaries in Wisconsin.

Mr. McEvoy—And running on till the end of the honey season? You will find some of it in combs near the end of the honey season.

Mr. Hatch—How is feeding going to help it?

Mr. McEvoy—Don't let it start. It didn't start them. The bees from some queens are poor feeders of larvæ.

Pres. Dadant—If it continues during the honey season it is contagious.

Mr. McEvoy—No.

Pres. Dadant—My experience is different.

Mr. McEvoy—It will hang on and continue. This year it did continue pretty nearly to the end of the honey season, but I would change the queens in that case when they won't feed their larvæ.

Mr. Hatch—I have changed the queen in one and it had no effect whatever; the disease kept right on the same.

Mr. McEvoy—I never had a case, or saw a case.

Mr. Hatch—This year I saw only one colony that was the least affected, and that only in two cells.

Dr. Phillips.—What difference does it make whether there is a germ or not? was asked. I think it makes all the difference in the world, if we have something in the hive that is going to carry contagion if it is spread; if it is due to some other cause it will not spread in the same way, and the bee-keeper will have to know whether there is a germ there or not, so that he will know how to avoid it.

Mr. Baxter—I have had no foul brood in my apiary, or disease of any kind, until this year I had a case I thought was foul brood. I got scared about it, and I asked my brother-in-law to come and look at it, but meanwhile I changed queens, and the trouble stopped at once.

Mr. Evoy—It generally will in that case.

Mr. Moore—This seems to be a heresy. Dr. Howard, of Texas, has taught us that *bacillus alvei* was found in foul brood. I have studied all of them, and all the authorities have told us the same thing; but Dr. Phillips comes along and says there is no *bacillus alvei* found in foul brood. I thought an answer to the question would help us to get clear on this point.

Dr. Phillips—*Bacillus alvei* was first described about 1885 by Cheshire. They described it from specimens obtained in England. The second description was that by Prof. Harrison, of Canada. He described it as present in foul brood. Then Dr. Howard, of Texas, described it as foul brood. After that Doctors Moran and White of Cornell got up and found in black brood the same germ. I think, personally, what Cheshire described was what Mr. Moore refers to, and from the other conditions I should judge it was another disease. Let me say here that in every case in which I took a sample of brood I got it from a man who had had years of experience in treating the diseases. I got it from men who know these diseases from practical experience all over the United States.

Mr. Holekamp—Mr. Phillips, when we send you samples of foul brood, do you keep a record of them?

Dr. Phillips—Yes.

Mr. Holekamp—I sent 5 samples last year to Mr. Benton.

Dr. Phillips—I can't say about Mr. Benton's records. I have kept my own. I suppose it can be looked up.

Mr. Holtermann—There is one point in connection with the paper that I think should be brought up, and that is that quite a number of us are very much exercised about the distribution of Caucasian bees. I think it would be wiser if these Caucasian bees would not be spread about at the present time. I may say I am personally very much pleased, indeed, that the Department of Agriculture at Washington is taking this matter in hand, of helping the bee-keepers, and I think it should receive the warm co-operation and assistance of the bee-keepers, not only in the United States but in other countries. I am pleased, also, that they are seeking to find if possible new races and varieties of bees, and improve the race; but for my part I think it would be better if these bees were not distributed as it is proposed they should be, because, as we know, we can not control where they shall go. If we find they are as objectionable as some say, it would be a very serious matter to have them scattered abroad. One man in our own country had 22 queens, and he says at the present date he finds strains of these characteristics cropping up which are confined to the Caucasian bees and he has tried to stamp them out during the entire 23 years. Wouldn't it be better to test them somewhere where they would not spread, instead of scattering them through the country where we may not be able to control them and it may prove serious for us?

Mr. Abbott—I agree somewhat with Mr. Holtermann, but not for the reasons he gives. I don't think the Government should distribute *anything*, but I think the most disgraceful thing the Government does is distributing seed, and I would object to the queens being distributed on the same ground. But it is entirely too late for us to tell the Government what to do. We have a very excellent Secretary of Agriculture, who is wide awake and progressive. And we have a very excellent entomologist, and they have marked out these lines and now the best thing we can do is just keep our mouths shut and let them do what they want to, in my opinion.

I want to say, while Dr. Miller was commenting on this excellent paper he said one thing that I don't believe is so—he said that this would not be confined to one individual, we could all have it. We can't do it. It has never been known that all people have it. How many Burbanks do you think there are in the United States? There is only one. And there are only two or three men that have made any progress in the matter of the Corn Investigation; and there are two or three breeders. Now we have finally found a young man with brains, with energy, and with a disposition to work, and who is peculiarly adapted to this work, and the best thing we can do is to just keep our hands off him and let him go his own gait, and let him have his own way about it, just as Luther Burbank has gone his own gait and had his own way. This work can be done by these individuals, and it will be done, and I think we make a serious mistake. I don't believe in the distribution of anything. I do not agree with Secretary Wilson on that line; and I do not agree with the Government's work, wherever it sends anything. I don't believe in giving away literature and sending it out miscellaneously, and that costs millions of dollars, and some of it is good and some exceedingly bad, and the peculiarity of this paper is that it does not partake of the bad. We have something here that is progressive and intelligible.

Mr. McEvoy—The best you ever heard.

Mr. Abbott—Yes. There is a man with a disposition to work. Now, let him go; don't let us bother him.

Dr. Phillips—I have been for the last 8 days right among the honey-producers, and I think I know their views in regard to a good many things in addition to Caucasians. I did my best to talk the thing over with them. I will give you their criticisms. In the first place, the criticism was made that these bees are too gentle; robbers will come in and take away the surplus honey. In reply to that I will say, I don't think these bees are gentle enough for that, and just as long as a man does not know how to handle bees he will do the very thing that will irritate them. The other criticism was made that these bees are so gentle that you will have amateur bee-keepers all over the country. I don't think you have to fear much from the amateur; he always goes to the wall in about a year or two. I am not afraid of the amateur bee-keeper at all. Perhaps I am wrong on that point.

The criticism was made, and the only criticism that I could consider as valid against any race of bees was, Will it produce the honey? If it will not produce the honey we don't want it. In regard to that I don't know enough about it to give a definite answer. Rauchfuss Brothers, of Colorado, have reared Caucasian bees and speak in the highest terms possible of them as honey-producers. They were the ones that recommended them to Mr. Benton for his work.

In regard to the distribution, as soon as the Department of Agriculture gets hold of anything and somebody wants it, what are you going to do about it? To prevent an indiscriminate and unwise distribution I have limited the distribution in the way I have mentioned. It was the only way I could see out of it, and I don't think it is going to be detrimental. The argument came up, you will contaminate all our other races. How much contamination do you get that is any worse than the black bees all over this country? I don't think the conditions can get any worse than they are now with the blacks, Carniolans and Cyprians all mixed up as they are now. I would be very sorry indeed if the Department of Agriculture were to introduce something that would be detrimental. We have enough reports to indicate that this race needs testing, and the Department does not have it in control to say just exactly where these bees shall go.

Mr. McEvoy—How do you manage, Mr. France, with this pickled brood? Does your experience bear out mine? Feeding.

Mr. France—Almost the same thing. This feeding to avoid starvation during shortage has overcome it largely. I would like to add that we are all proud of the valuable paper that Dr. Phillips has given us, and I want, on behalf of the Association, to ask if he will accept the enrollment of the National Association on the mailing list, that anything he gets of value we will all get.

Dr. Phillips—Any person can get this for a post card. If they do not want it badly enough for that it might be just as well to keep it where it is.

Dr. Miller—May I ask Dr. Phillips this practical question for us who are honey-producers? I am working for all the honey I can get to sell it. Is there anything that you think I can do to raise the character of my bees, and to get more honey from them?

Dr. Phillips—I think you can not do anything more or less than keeping the records and cutting out all stock that is not of value; keeping the races pure at the same time.

Dr. Miller—Now, he says, I, an every-day, common bee-keeper, can do something to improve my bees, and I can help him.

Dr. Phillips—In regard to what a honey-producer can do, let me cite an example. There is a man in New York State who has 98 colonies of bees; he has a neighbor 5 miles away who has 200 colonies. One man has selected in breeding for the last 10 years and has inbred very closely. The other man has been buying stock from all over the United States, but not selected in breeding. The man with 98 colonies got exactly the same amount of honey within a very few pounds as the man with 200 colonies, and they both admit they have about the same localities.

Mr. Moore moved, duly seconded, that Mr. Abbott be asked to give his paper this evening. Carried.

(Continued next month.)

Doctor Miller's
Question-Box

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Methods of Transferring Bees from Old Hives

Please give two or three ways of transferring bees from an old, rotten hive to a new one. I am green at the business, and must get the bees out of the old hives. Some say one way and some say another. Nebraska.

Answer.—You are pretty safe to follow the instructions given in the books of instruction on bee-keeping. One way is to cut out the combs and fasten them into frames in the time of fruit-bloom. If the old hives are movable-frame hives, the frames and combs in good condition and of the right size, there will be nothing to do but to lift them out of one hive and put them in the other. The probability, however, is that the old hives are box-hives, in which case there must be the cutting and fitting of combs.

A second way is to set the old hive over the new one, making all close so that no bee can get out of the old hive except by going down through the new one, this to be done early in the season. If the two hives are not of the same size, make a board-cover to cover the lower hive and let the upper hive rest upon it, the cover large enough for the larger hive, and a hole cut in it as large as the inside of the smaller hive. When the bees work down into the lower hive, the upper one can be removed, providing there is no brood in it longer. If brood is still present, an excluder should be put between the two hives, making sure that the queen is in the lower hive, and at the farthest the brood will be all gone in the upper hive 21 days after placing the excluder.

A third way is perhaps more satisfactory, and is growing in favor. Wait till the colony swarms, and hive the swarm in the new hive, putting it on the old stand, with the old hive close beside it. A week later set the old hive on top of the new one, and 21 days after the issue of the swarm drum all the bees out of the old hive and give them to the swarm. If, however, you desire increase, instead of setting the old hive on top of the new one a week after swarming, set it off in a new place, and 21 days after the issue of the swarm drum the bees out into a new hive and transfer the combs, which at that time will have no brood in the way.

It is now getting so late in the season that very likely it will be as well not to do anything in the way of transferring till next year.

To go into the full subject of transferring would be to go beyond the scope of this department; but if there are any special points which you desire information, ask any questions you like, and they will be cheerfully answered.

An Experience with a Robbed Colony

My apiary consists of 5 colonies, which are doing very well so far. Recently a little boy reported a swarm of bees on a fence. I asked how long they had been there, and he replied, "About 2 weeks." I knew they would be but little benefit to me, but I went and hived them, and brought them home and put the hive in a row with my other colonies. A few days later I saw a neighbor bee-keeper who told me to give them a few frames of brood from another colony, which I did, and all seemed well for a few days, when robbing began and the queen was lost. I then bought a queen, but the bees had again begun to gather honey and had started queen-cells, and robbing stopped. I cut out the queen-cells and introduced the queen successfully, the bees working nicely, but there were very few of them. So I gave them a few more frames of brood, and the next afternoon I again noticed robbing. I shut the hive and in the evening moved it to a new stand, leaving it for 2 days, then opened the hive, but as they were again robbed I shut it. I then built a tent of mosquito-netting 5x5x12 feet, and put them into it. They had lots of honey, pollen, brood and young bees 6 or 7 days old. Now come my questions:

How long dare I keep them in the tent, or how long must I keep them there? What shall I feed them? The buckwheat will be in bloom in about 3 weeks, and probably the alsike clover later on. Pennsylvania.

Answer.—It isn't a good plan to keep bees imprisoned, and no matter how long you keep them shut up the robbers will be likely to all attack them again when they are opened, unless you wait for the buckwheat flow, which would make a pretty long imprisonment. Better take away the tent in the evening, right away, and pile hay or straw, 6 inches or a foot deep at the entrance, so it will bother the robbers to get through. It will make it more effective if the hay be well wet. By taking away the tent in the evening you will allow the bees to come out quietly next morning, without attracting the attention of the robbers so much as they would do if you opened them in the middle of the day. Don't take away the tent in the evening till after the bees have about stopped flying. It isn't a good plan to move bees to a new place when robbing is going on. Many of the field-bees will be lost to the colony by moving, making it weaker to defend itself, and the robbers are sure to find the new place anyhow.

Chaff Hives—Getting Bees Into Supers—Afterswarms

1. I am a beginner in the bee-business, and would like a little information which I can not get in a satisfactory way from the "A B C of Bee Culture." I wish to work up to about 20 or 25 colonies of bees and have no bee-cellar to winter them in. I think of using nothing but chaff hives. Would you advise me to depend entirely on such hives?

2. I am having trouble with one of my colonies. I can not get the bees up into the sections. They build up between the section-slats and the brood-frames. I have used every means and all the information I could get from the "A B C of Bee Culture" to get them to work in the sections. I tried a section of last year's honey in the center of the super. They uncapped it and carried it down. I tried a section from another hive, with the comb partly drawn out, with no avail. The hive is an old-style Simplicity, with 4¾-inch super, and 3-inch bee-space. What would you do in my place?

3. When an afterswarm issued what will be the result if I hive them and catch and kill the queen and shake the bees back into the parent hive? INDIANA.

ANSWERS.—1. I hardly dare advise. Chaff hives will make you less trouble preparing for winter, but they are cumbersome and unwieldy, and if they should perchance at any time pass into the possession of some one having a cellar or wanting to take them to an out-apiary, they would be objectionable. So it would not be a bad plan for you to experiment a little, trying some of both kinds, only be sure to have only one size of frames.

Possibly, however, your question is meant to be understood not as to whether you shall have chaff hives entirely, but that you have decided to have only chaff hives, and you want to know whether you can depend entirely on chaff hives for wintering, without any outside packing. In that case I answer that no additional packing is needed with chaff hives. It is well, however, in case of any outdoor wintering, to take advantage of any buildings, groves, etc., to protect against the severity of prevailing winds.

2. If the bees do not work in the super with all the inducements you mention, it is quite likely because the colony is not strong enough to work in supers, for you say you gave a section from another hive partly drawn out, so it must be that other colonies are storing. There is one thing that is a little hard to understand. You say there is a 3-inch bee-space. I don't feel sure what you mean by that, but if you mean that there is a space of 3 inches between the sections and the top-bars—and it looks a little like it when you say, "they build up between the section-slats and the brood-frames"—then it is no wonder that you have trouble. There ought to be over the top-bars a space of no more than ¼-inch.

If, however, you have only ¼-inch space over top-bars, then there is just one thing more you can do to coax the bees up. Cut out a piece of brood from a brood-comb and fit it into one of the middle sections. If the bees don't go up into that there is nothing left but to take them to an insane asylum.

3. They will swarm again with the oldest virgin left in the hive. If you want to try anything in that line, the easier and better thing to do is to destroy all queen-cells in the hive, and then return the swarm, queen and all.

Our
Bee-Keeping
Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Something About Bees and Honey

For nearly 14 years I have been keeping bees with varying success in Custer county. When I commenced there was no one to give me any encouragement or lend a helping hand. I had been told that, "Bees would not do well in Nebraska," that "There was not enough for them to work on," etc.

However, I am quite a hand to want to try for myself—"bull headed" I have been told by the individual most free to give home thrusts!

I can say that the prospects for the bee-keeper in Nebraska have steadily improved since I made my first attempt, and I have also learned much in the costly school of experience.

I am an advocate of farm bee-keeping. Not that I think the farmer should vie with the specialist in the field of apiculture and burden himself with more than he can manage. Two or three colonies make but little work and should afford honey for his table the year round. Ordinarily this goes to waste in his fields for lack of bees to gather it.

Why should this be so? A recent writer in the Farmer's Voice says that the farmer used to be a bee-keeper. If that be so it seems a strange falling away from a commendable practice, for certainly bee-keeping was never easier than it is to-day.

I have noticed the prevalent idea that "Bees would not do well in Nebraska." Then there is the natural dread of stings.

It is said, with what truth I know not, that the poison of the bee's stings is a specific for rheumatism. That ought to be some comfort under affliction!

Besides that, the Italian bee is very gentle, and not at all like the irrascible little black rascals of the time of our grandfathers.

Then, too, there are many who do not realize the great value of honey as a food and as a medicine. They don't have "the honey habit."

We are told on all hands, "Uneeda biscuit" and invited to "Try-a-bita" food, and cautioned what to smoke, but there have not been many to urge the value of honey. If people in general rated it at its true worth the present supply would not be enough to go around! It would replace some of the patent medicines of more than doubtful virtue for the treatment of coughs, colds, la grippe, etc.

The medical profession are generally agreed that honey is the most wholesome sweet, as it is also the most ancient, and can be freely eaten in certain diseased conditions of the body when sugar is forbidden as an article of diet. It is usually much relished by children and is suitable also as a food in extreme old age.

To the honey-lover it is not generally consideration of the above facts, but simply its deliciousness and its comparative rarity that leads him to indulge.

It is much cheaper than it used to be and while bee-keepers may lament that the day of high prices is passing, if they think at all of "the other fellow" they will not regret the fact that they can no longer get 25 cents a pound for their product.

"How to Manage Bees," may be partly learned from the many excellent instruction books and papers published in regard to bee-keeping; but, after all, there is so much difference in locality, I have had to learn many things for myself.

I have decided that at least one cause for failure in Nebraska is this: Our best natural honey-flow is in the fall, bringing with it late swarming which, if unchecked, is also excessive. Then there is often failure in such cases to gather sufficient stores for winter, especially when, as was the case last fall, there is a cessation of honey-gathering earlier than usual, followed by an open winter when the bees fly freely, consuming their stores before there is anything more to gather, when they starve. The strongest colonies that are left are often allowed by the careless bee-keeper to hunt the icy water in the stock tanks, chilling to death, when the bee-keeper will say he had a case of "spring dwindling."

To put it in a nut-shell: If the colonies winter through with abundance of food and are supplied with artificial pollen and water close by, they are likely to be in good condition when fruit-bloom comes, and if there is nectar to gather they will repay whatever care has been given them.—Custer Co. (Neb.) Beacon.

MRS. A. L. AMOS.

Mrs. Amos speaks of allowing the bees "to hunt the icy water in the stock tanks." Will she kindly tell us how she provides water for her bees? Does she warm it? In this locality some farmers warm the water for their cows but the bees are left to do their own warming.

Comb Attached to Separators

For 2 years my bees have been determined to build the honey to the separators, and so spoil my sections for market. Now, what is the

reason of that? Some one said he thought it was because the hives did not stand exactly on the level. MRS. ORVILLE BUCK.
Farmington, Wash.

[This building of combs to separators is somewhat dependent upon locality, but more on the strain of bees. By introducing a new queen to the colony that shows this tendency you may remove the comb-building propensity somewhat. Of course, if hives are not plumb the foundation will lean toward the separators in a way that will invite attachment when the combs are being built out.—EDITOR.]
—Gleanings in Bee Culture.

While what the editor says may all be true, there are other reasons than those given, as we learned from no small experience years ago.

When a weak colony was working in a super—especially if honey was coming in slowly—the bees would fill the side of the comb towards the center more rapidly than the outer side, and this had a tendency to make the bottom of the foundation swing outward so that the bees attached it to the separator. For years there has been no single instance of the kind. Possibly our colonies are stronger now; possibly nectar does not come in so slowly; possibly our bees are better workers; but the chief reason lies in the fact that for years we have used bottom starters also in sections. The first care of the bees seems to be to attach top and bottom starters together, making it impossible for the foundation to swing to one side.

So, Sister Buck, use bottom starters and you will have no trouble.

Appreciates the Bee Journal

I have 30 colonies of bees, and could not get along without the American Bee Journal. MRS. CHAS. BROWN.
Cavalier, N. Dak., July 2.

Please tell us something about what those 30 have done.

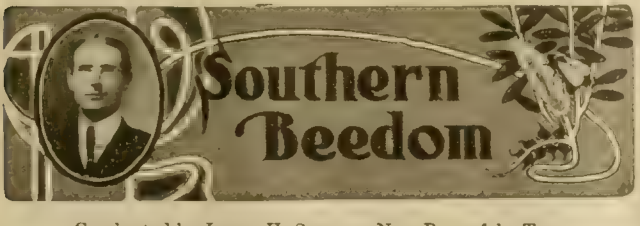
Honey for Lemonade, Salve, and Dyspepsia

The following recipes are taken from the British Bee Journal:

HONEY LEMONADE.—Proceed as in making ordinary lemonade, but use honey instead of sugar. The flavor will be found much improved, and the effect very refreshing.

HONEY SALVE.—As a cure for boils and carbuncles, mix together pure honey and flour, making it a stiff paste; spread on a cloth and lay on the sore, renewing every 12 hours.

HONEY FOR DYSPEPSIA.—Take a glass of boiling water and stir in it 4 tablespoonfuls of honey. Drink while hot, just before retiring to bed. It will promote sound sleep, good digestion, free action of the liver and kidneys, and cure nervousness.



Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

The National Convention in Texas

The Texas bee-keepers are very enthusiastic about the coming meeting of the National at San Antonio in November, and preparations for taking care of the delegates are being made. At the recent convention of the Texas Bee-Keepers' Association one of the only two topics on the program was, "Arrangements and Entertainment of the National Bee-Keepers' Convention at San Antonio, Nov. 8, 9 and 10, 1906." This subject received many lengthy discussions at different times during the convention, and steps were taken to begin immediately the work before the bee-keepers of Texas. Proper committees were appointed for the different matters that will be given attention for making a creditable entertainment for the delegates.

Up to quite recently, when "Texas" was refreshed by bounteous rains, that were almost general throughout the entire State, conditions and prospects for the bee-keeper were very gloomy, but since the rains a great change has taken place, and a renewed spirit has taken possession of the bee-keepers generally. Prospects, too, are promising in many localities, and at least part of a honey crop will be harvested. In the more southern localities the rains are too late, as the honey harvest comes early in the season. There may be some fall honey, however, yet the Texas honey crop will be a short one, taken as a whole.

It is now hoped that nothing will keep the National from coming this fall. All indications are that a successful meeting will be held. The time of meeting comes during the holding of the International Fair, which makes the occasion a doubly interesting one. The bee-keepers' exhibit at the Fair will be quite an attraction, and everything bids fair to make it a credit to Texas as an apicultural State, and one of which the Texans need not be ashamed when their visitors come to see what she has to show in bees and apiarian products. It only behooves every bee-keeper in our State, who possibly can do so, to help make this occasion a creditable one.

The Sixth Annual Meeting of the Texas Association—July 10 to 12, 1906

The convention was held during the meeting of the Texas Farmers' Congress, of which the Texas Bee-Keepers' Association is a section, affiliated with that large body which represents some 14 State associations, and they in turn represent nearly every branch of the agricultural interests of Texas.

The meetings were successful, and much interest prevailed throughout the sessions, lasting 3 days. Over 1000 delegates were in attendance at the Congress, and of these the bee-keepers made a good representation. The report of the proceedings will be gotten out at once and published.

The election of officers of the bee-keepers' association resulted as follows: W. O. Victor, of Hondo, President; Udo Toepperwein, of San Antonio, Vice-President; and Louis H. Scholl, of New Braunfels, re-elected Secretary and Treasurer.

The main subject of discussion was that of the entertainment of the National Bee Keepers' Association at San Antonio, and work was begun immediately. A committee to look after the financial side of the matter in hand was appointed, as well as one for arrangements. The members of the Committee on Finance are: W. O. Victor (chairman), Willie Atchley, W. H. White, Udo Toepperwein and D. C. Milam. Their duty will be to solicit subscriptions towards raising the necessary funds. Over $100 had already been raised at the report of the committee before adjournment of the meeting. The work will be carried on by the whole body, each member representing his particular district.

The Committee on Arrangements and Entertainment are: Udo Toepperwein (chairman), W. H. Laws, Louis H. Scholl, F. L. Aten and Dr. C. S. Phillips.

Much business was transacted, and many valuable discussions took place, while the "Question-Box" received a large share of attention, on all of which more will be said from time to time.

Other committees, that were appointed, will be given place here so that a memorandum can be made by those on the committees.

Committee to Inspect the College Apiary: J. W. Pharr (chairman), M. H. Osman, A. H. Knolle, J. M. Hagood and J. W. Taylor.

Committee on Exhibits: Louis H. Scholl (chairman), Willie Atchley, W. H. Laws, Dr. C. S. Phillips and W. O. Victor.

Committee on Resolutions: Dr. C. S. Phillips (chairman), J. W. Pharr and W. H. White.

Committee on Legislation: F. L. Aten, J. K. Hill and Dr. J. B. Ireon. (Remaining members appointed in 1904.)

Committee on Program, for the next meeting: W. O. Victor.

Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when writing us on other matters

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

More Ontario Honey Crop Reports

Quite an interesting and educative list of honey-crop reports has come in response to my request. It shows generally complete or practical failure of the white honey crop. Of course, there are notable exceptions, and even from counties where others report failure some men through extra-good management, or by being peculiarly situated, are able to report good crops.

Starting in the extreme southwest of Ontario—which, by the way, is the most southern point of Canada (parallel 42° N. latitude), and is south of a dozen or more of the States in the Union—one man in Essex county seems to be getting so much comb honey he does not know what to do with it.

Kent county reports a poor crop. Elgin county about a third of a crop, and Middlesex, Haldimand, Welland, Oxford, Brant, and Wentworth send the same report. The weather has been fairly good for basswood, but the trees are so scarce in most sections that not much can be hoped for from it.

Conditions seem to have been better in Huron, Perth, and Bruce counties.

G. A. Deadman, of Brussels, says: "Clover has done more than we expected at one time, and if basswood yields we will have perhaps more than usual."

Walter T. Box, of Stratford: "We have a fair crop here—better than last year. Lots of clover; bees not swarming."

From Wellington county conflicting reports: J. F. Switzer says: "Indications of light honey crop;" Joshua Thomas, "Best season for many years;" A. Fyfe, "Honey crop very poor."

It is often noted that a difference of a few miles makes the difference between a crop and no crop.

Grey county reports poor to medium; Halton reports poor clover with prospects for basswood. Peel, York, Simcoe, Ontario, Durham, Victoria—all report poor crops, with the exception of E. H. Hand, of Fenelon Falls, who says, "Clover good, and promise of basswood."

Peterborough, Frontenac, Leeds and Lanark all report light crops.

Wm. Gibbs, of Appin (Middlesex Co.), says: "Best have stored 200 pounds per colony; average will be 150 pounds."

W. L. Wilson, of Elmvale, wrote July 14:

I wanted to see other bee-men in this neighborhood before reporting. Well, we had a very backward spring for the bees. Nearly all say very poor for swarms or honey. We have had one week very fine for the bees. I can't complain very much. Things are rather late here, owing to cold and wet. A great many bees got short of stores, and that caused them to quit breeeding. That means no honey. I fed mine daily at the entrance. They are in grand order for storing honey any day that there is honey. My hardest job is to hold them from swarming, as the season is late. Basswood is not in bloom yet, but it looks good. If the weather only is right I think I will average 60 or 70 pounds to the colony, spring count, and neighbors 10, 15, or as low as 5 pounds.

I extracted from 2 hives for the first time this season; about three-fourths capped. I got 47 pounds from one colony, and 50 from the other. They had 2 supers on. I took only one super from each. If it continues dry I will soon extract all that is sealed.

W. L. Wilson.

John J. McKay, of Nova Scotia, sends this:

The clover honey crop is a total failure with me; 3 or 4 of the strongest colonies have about 20 pounds each.

There is very little buckwheat raised in this part of the Province.

Fall wild flowers are our main stay for honey. Fifty pounds of extracted honey is my average from an 8-frame Langstroth colony. Such a hive is half too small, but I can not handle a larger one, and the wind is too strong to use 2 hives with the supers on top.

Last season I got 140 pounds and a swarm from some colonies, but it was a very good season.

I keep from 30 to 40 colonies, and have full control of the local market, which takes 1500 pounds each season. John J. McKay.

Alpine McGregor, of Inglewood, writes: "*Almost* a total failure. I doubt if they will average 20 pounds each. I expect no dark honey."

J. W. Clark, of Brant county: "Unless we get a good flow of basswood the honey crop will be a total failure this year."

J. W. Sparling, of Durham county: "Total failure."

J. D. Evans, of York county. "No honey, no swarming, no '*nothink*.'"

Jacob Alpaugh, of North Bruce county: "I will have a fair crop—about 100 pounds per colony. I have reports from a good many, but nearly all report a failure in clover; that is, along Lakes Erie and Ontario."

Reports and Experiences

The Busy Bee

The busy bee will busy be
If you be careless both'ring she;
Beware ye of the busy bee,
And be not busy where she be.
—Selected.

Honey-Flow Starts Early

The dandelions were exceptionally good this season. The bees built up very well on it, and some swarmed. We had swarms here May 31 as the result. Then came the wild crab-apple with its exceptionally good honey and pollen harvest. Its honey is of water whiteness. Some of my colonies got as high as 10 pounds from it. June 8 nearly all the crab-apple and dandelions were gone, and no prospect for any more for 2 weeks. It is now July 2, and clover has been in bloom for about 15 days, but has produced no nectar excepting on 3 afternoons, so far.

After all, the prospect so far is not bad, as it has been rainy and cloudy off and on for the last 15 days, so white clover has a good start now. Here are fields now in bloom with alsike clover, which looks as though we would have a fair crop. I have 4 extracting supers on some of my hives, but, so far as I can understand, the honey-flow is just fairly started. Chas. O. Bergstrand.

Lykens, Wis.

Heavy Honey-Flow

We are still having a heavy honey-flow. I have to extract every week, and the hives are 3 and 4 stories high at that. The honey is very thick and fine. I have not had a swarm so far this season. T. L. Shawler.

Mills Co., Iowa, July 6.

Such Wonderful Discoveries in Beedom!

I rather think Mr. C. Davenport (page 603) has found a mare's nest. I've seen the symptoms often, and the cases are much alike. The man begins to jump around excitedly, crying out, "O me! O my! I've got a secret! I know how to make bees do—oh, all manner of things. But I won't tell, not for plunks and plunks."

Some enthusiastic editor takes a special train for Bumblebeeville, N. Y., to interview the wise one. Offers to pay him 10 per column for a series of articles describing his find. Gullible editor brags about what is coming, and tells his people to hold their breath.

Always turns out to be a matter of locality. Bees naturally *do* things differently where he lives, because—well, just because. Why not *move* to that locality? "Well—er—it's overstocked, and bees don't do those things any more."

Hope the present case will turn out differently. Charles Bender.

Newman, Ills.

Honey from Second-Crop Alfalfa

Bees have been and are still storing alfalfa honey rapidly from the second crop. The first crop yielded little or no honey.

Lyons, Kans., July 17. G. Bohrer.

Bees Working Vigorously

My bees have been storing honey since May 15. The honey season is not over yet. Last year I did not get any honey from my bees. I have a big trade on comb honey, and always have to buy it to supply my trade.

D. E. Barker.

Oklahoma Co., Okla., July 9.

Milkweed Pollen and Bees

I am sending you a sample of bees with something on their feet. What is it? and how does it get on the feet of the bees? You will find 4 bees in the package that have some foreign matter stuck to their legs and feet, and one has it on its tongue. In one end of the box is a quantity of the foreign matter for examination. Sometimes this yellow foreign matter is ¼ inch long. The bees can hardly walk into the hive, and when one gets it on its tongue it gives up and dies. I found several bees outside the hive dead, or nearly so. With the exception of this trouble my bees are doing well. EDGAR VARNEY.

Ansley, Nebr., July 6.

[Mr. Varney's bees have been working on milkweed. The foreign matter on their feet, etc., is milkweed pollen. This is very common wherever bees work on the milkweed bloom. They get caught in the pollen and often it holds them right to the blossoms until they die. In fact, it takes quite a little pull to disconnect them, and then the pollen sticks to the bee's feet. No doubt there is quite a a loss of bees from this cause wherever there is much milkweed in bloom.—EDITOR.]

Doing Fairly Well—Tearing Down Cells With Live Queens

My bees are doing fairly well now on white clover. I have 58 colonies left out out of 74 that went into winter quarters, and some of them are pretty weak yet.

On page 445, I notice that Mr. Alley says bees never tear down cells containing live queens. Now, if Mr. Alley has a strain of bees that are up-to-date so they will not tear down cells with live queens, I would like to get a start from his bees, and if he will guarantee them in this respect, I surely would purchase some queens of him. My bees are so uneducated and unruly that when I give a nice cell containing a choice queen to a colony that I wish to requeen, they very often go to work and tear it down and rear queens from their own brood. They have done it time and again.

I also can say with Mr. Latham, on page 504, that I have seen cells with holes in them and the queen still alive. Now, I know Mr. Alley has had more experience than I have, and thinks he is right. And it may be his bees are better educated than mine are, but my bees just will be contrary, and tear down cells that I know contain live queens.

W. R. M. COYLE.

Schell City, Mo., June 18.

Bees Doing Poorly

Bees are doing very poorly. It is cold and rainy with hail thrown in. I have had only 5 swarms from 60 colonies.

EDWIN HUTCHINSON.

East Avon, N. Y., July 9.

Not a Good Honey-Year

I am a bee-keeper on a small scale. I have only 11 colonies, but I have obtained information through the American Bee Journal that has been worth many times the price paid.

This has not been a very good year for surplus honey here—it was too cool during white clover bloom. But I hope next year will be better. My bees are Italians and good honey-gatherers. MELVIN LESLIE.

Mt. Comfort, Ind., July 19.

Unfavorable Season—Bee-Management

This is a bad season for this locality. Most bee-men are feeding to keep the bees from starving and also to keep up brood-rearing. I have been feeding for the last 2 weeks to stimulate brood-rearing for the late harvest which opens about Aug. 10.

There are a good many bees in this locality. I have been among most of the different bee-keepers, and find by actual count that there are over 1000 colonies within 6 miles, but for all that one man got 18,000 pounds of honey last year, and another got 10,000 pounds. That goes to show that the thought of overstocking a given territory is largely imaginary. Of course, those happy-go-lucky fellows, who let their bees shift for themselves at this time of the year here and starve, or almost so, don't get much honey. I always try to bring my bees to the opening of a honey-flow with a powerful population, and combs crowded with brood to the exclusion of honey; then on goes an extracting super, and on top a super for comb honey; and then with my method of substituting a young queen for the old one early in the season, I have practically never a swarm.

I shall mention this method later in the Bee Journal. JULIUS HAPPEL.

Evansville, Ind., July 13.

No Income from 300 Colonies

I have just ended my work in the apiary this season, and from 300 colonies I got no income this year. The season in the beginning was promising, but from all I can learn the honey output in Southern California will be of little value this year.

ALBERT ROZELL.

Los Angeles, Calif., July 19.

Bees Have Stopped Business

Bees seem to have entirely stopped business. I have taken off but 3 cases of comb honey, and should have had at least 50 with a fair season. WM. M. WHITNEY.

Lake Geneva, Wis., June 23.

Bees Did Fairly Well

Bees have done fairly well here this year, considering the drouth which cut the clover crop short about half. From 104 colonies I will get about 6000 pounds of comb honey and 300 pounds of extracted of very fine quality.

There was but very little swarming. The ones that did not swarm stored the most honey. Those with the queen caged for 10 or 12 days did next best; the ones that worked on the latest Doolittle plan were third, and the ones that were hived or "shook" in empty hives on starters did the poorest.

Mills Co., Iowa, July 14. J. R. MINTLE.

Sweet Clover a Great Boon

A year ago now my bees were working on their second super and were through swarming, while this year they have barely gathered enough for their own existence. But as the season is advancing it becomes more settled, and as sweet clover is blooming we may get a little honey yet.

The sweet clover has never failed to yield nectar in this climate. I wish there was more of it. Sweet clover is not sown as a crop here, but was accidentally started by seeds being sown with other seeds, and is rapidly increasing in out-of-the-way places. Along irrigating ditches and damp places where it is not molested, it grows to the height of 5 or 6 feet, and blooms profusely. It is a boon to the bee-men of this section. The bees work on it from the time it begins to bloom until frost kills it in the fall. The honey from it is first-class. I am scattering seeds of it around my fish-pond, and it is growing well.

V. S. JOHNSON.

Spearfish, S. Dak., July 9.

CONVENTION NOTICE.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9 and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

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Honey and Beeswax

Chicago, July 9.—Market is practically bare of comb honey, and while a little sells at about 15c for the best white grades, there is little volume to the trade. Extracted is in some demand at 6@7c for the best grades, but off flavors are about unsaleable at 5@5½c. Beeswax selling upon arrival at 30c. R. A. Burnett & Co.

Toledo, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5¼@5½c; in cans every grade from 1@1½c higher. Beeswax is firm and in good demand at 28 and 30c.

The above are our selling prices.

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Indianapolis, July 6.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for $33 per 100 pounds.

Walter S. Pouder.

Philadelphia, July 21.—Advices from different points are rather conflicting regarding the crop of honey this season, and consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted honey at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. Wm. A. Selser.

New York, July 10.—We still have some demand for comb honey, mostly for white grades, which sells at from 13@14c, according to quality. A very limited demand for light amber, with sufficient supply, and prices ruling at about 12c. Extracted in fairly good demand, with sufficient supply to meet all requirements. Quite some arrivals from the South, and common grades are selling at from 50@58c per gallon, and better grades at from 60@65c per gallon. California strong, and white is selling at from 7@7½c, and light amber at from 6@6½c. No near-by honey in the markets as yet. Beeswax steady at 30c per pound.

Hildreth & Segelken

Cincinnati, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.

The Fred W. Muth Co.

Denver, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at $3.35 to $3.75 per case of 24 sections; off grade and light amber at $3 to $3.30. White extracted alfalfa in 60-pound cans, 7½@8⅓c; light amber, 6¾@7½c. Beeswax, 24c for clean yellow.

The Colo. Honey-Producers' Assn.

Kansas City, July 5.—The honey market here is almost bare and there is very little new stock coming to market. On account of the poor wintering of the bees, very little honey has been gathered. The market for the best white honey in 24-section cases is $3.25@$3.40 per case; amber and other grades are 25@50c per case less. There is no new extracted honey on the market, but a little old is selling at 5½@6c, but scarcely any demand. We look for a good demand later. C. C. Clemons & Co.

Cincinnati, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¾c. Beeswax, 30c.

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Mated to choice drones Select Untested, $1.00; six, $5.00. **WALTER M. PARRISH,**
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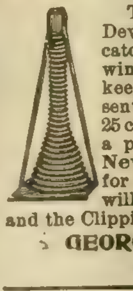

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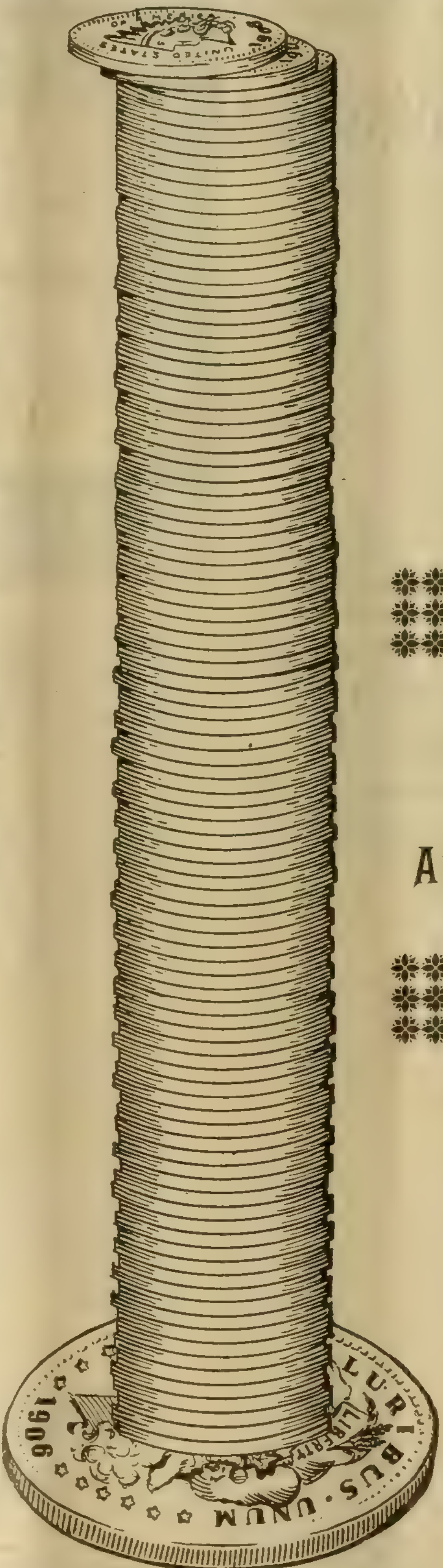

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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., AUG. 9, 1906 No. 32

Apiary of J. L Patterson, of Augusta, Ga.
(See page 686)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

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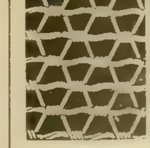

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TIP-TOP HONEY-JARS

This is a new-style jar sealed with rubber ring under rim of a glass top held securely with spring-top fastener. This fastener is applied to a great variety of bottles and jars used for different purposes. We have selected two styles among them all as being most suitable for honey. The one and two pound square jars may be had with spring top fastening instead of cork at 75c per gross extra. We can furnish in two sizes.

½-pound, 45c per dozen; gross, $4.50. 1-pound, 50c per dozen; gross, $5.

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These are very largely used for canning fruit, and are often used for honey as well. As we buy them by the car-load, we can make the following prices at Medina, all put up complete with porcelain-lined caps and rubbers, in cases of one dozen:

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AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
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GEORGE W. YORK, Editor CHICAGO, ILL., AUGUST 9, 1906 Vol. XLVI—No. 32

Editorial Notes and Comments

Requeening Colonies

Here are two paragraphs from an article written by T. Maguire, in the Irish Bee Journal:

> "Experienced bee-keepers know the importance of requeening their colonies every year; from observation and practise, and probably also from occasional failure and loss, they know the difference in result between the work of a young queen and that of an old one. But, although the matter is strongly urged in bee-guides and bee-journals, few amateurs seem to have grasped the full significance of having, every season, a young queen of the previous year's rearing, to head each colony.
>
> "Whilst the old, barbarous methods of smothering in skeps was cruel and wasteful, it had at least the merit that the young queen was generally saved. Under the rapidly spreading modern system, which aims at reducing swarming, there is no automatic renewal of queens—quite the reverse. What is the amateur, then, to do?"

When so well-conducted a journal as the Irish Bee Journal admits without comment such statements, it seems to show that misleading views are more or less prevalent. The novice is practically told that all successful bee-keepers destroy each queen when it becomes a year old. That is far from being true in this country, and it is likely no more true in Ireland. Is it true that "bee-guides and bee-journals strongly urge that a young queen of the previous year's rearing shall head each colony?" It would be more satisfactory if the writer had given the page in two or more of the bee-guides where such urging might be found.

The idea that there is automatic renewal of queens where natural swarming is allowed, and none otherwise, is about as far from the truth as it can be; and yet it is an error into which the novice is likely to fall. The novice should distinctly understand that natural swarming does nothing toward renewing or superseding a queen, and that there is just as good a chance for the renewal of a queen if a colony never swarms. "But," the novice asks, "when a colony swarms, doesn't a young queen take the place of the mother?" Strictly speaking, no; for the mother's place is now with the swarm, and she takes her age with her when she swarms, and needs superseding just as much as if she had not swarmed. Swarming does not change the age of the old queen: after the swarming she must be superseded; and she can and will be superseded just as well, and just as surely, without any swarming as with it.

Interloping Virgin Queens

A controversy is on in Gleanings between Editor Root and Dr. Miller as to what happens when a strange virgin enters a hive with a laying queen. Editor Root, with Mr. Wardell, the Roots' queen-rearer, as authority, claims that the virgin almost invariably displaces the old queen; Dr. Miller says his observation is exactly the opposite. It would be interesting to know what is the general law among bees in this regard.

Value of Spring Feeding of Bees

Frequent emphasis has been placed in this Journal upon the danger of harm from allowing stores to become scanty in spring. Even though it be a long time till next spring, it may be well to quote from Gleanings the following testimony of J. E. Crane:

> I remember some 30 years ago, before I had learned the value of early brood-rearing or the art of securing a strong colony in time to gather the crop of honey as soon as it appeared, nearly all my colonies were short of stores, while many of them were weak in numbers also. I thought that the strong colonies could take care of themselves, but the weak ones I must feed. I fed them, but left the strong ones to shirk for their feed. When clover came into bloom I found those that were strong early were almost without brood, and fast getting weak, while those that were weakest in early spring were my best colonies, and gave me very much the most surplus honey. Had I been a stranger to the resources of our section I might have thought we were overstocked. I believe that by judicious feeding when flowers yield little honey, the number of colonies in any given section may be very largely increased—I think it safe to say doubled, without any danger of overstocking.

What Is Honey-Dew?

So long as there is any uncertainty or difference of opinion among bee-keepers upon this question, it is not strange that others should lack entire information, but it is unfortunate that reputable periodicals are so much given, when any question of interest to bee-keepers is involved, to making statements that they do not *know* to be true. The following paragraph from Successful Farming is a case in point:

> "Honey-dew is the secretion of plant-lice and scale insects. They send this substance out in a spray over the leaves of trees and the bees gather the stuff. It is unfit for sale, and should never be sold or bought, though some bee-keepers are ignorant or mean enough to sell honey-dew."

The definition of honey-dew is right so far as it goes. But the term "honey-dew" includes also secretions from plants with which insects have nothing to do. Even if the term be used in the restricted sense in which it is given in the paragraph quoted, it is not entitled to the severe judgment pronounced upon it. There is honey-dew and honey-dew, as there is honey and honey. Prof. Cook, who has given special attention to the matter, says: "Much aphid honey-dew is deliciously wholesome, and the honey from it is superior."

There is honey-dew that is unfit for the table, and that can be said of honey-dew in general; some of it is unfit for winter food for bees. But there is also honey unfit for the table, and no bee-keeper need be "ignorant or mean enough" to sell such honey as a table luxury. But to call a bee-keeper either ignorant or mean who should sell honey-dew that is "deliciously wholesome,' in the form of honey that is "superior," is hardly warranted.

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Picking Up Spilled Nails

Bee-keepers, perhaps more than others, spill nails in the grass, and if they are small nails they hardly pay for the trouble of getting them out of the dirt and grass. J. A. Green, in Gleanings, gives the bright suggestion to pick them up with a magnet. That's a "Green" idea in only one way.

Miscellaneous News-Items

Dr. E. F. Phillips, Acting in Charge of Apiculture in the Department of Agriculture, at Washington, called on us last week when on his way back from California, where he had been in the interest of apiarian work. In a short time we will be able to announce a bulletin on the diseases of bees, being the results of investigations and experiments conducted by experts of the Department of Agriculture. It is a great pleasure to meet a man like Dr. Phillips, who seems to know what he is in this world for, and also *why* he is employed by the Government in the interest of bee-keeping. He is both energetic and affable, and will make friends wherever he goes. If given the opportunity, he certainly will give a good account of himself in the line of work he has undertaken, and deserves the hearty support and encouragement of bee-keepers everywhere.

◆

Messrs. Hildreth & Segelken, honey-dealers in New York City, wrote us as follows July 25:

"As to the honey crop this season, the reports we have received thus far are very conflicting. In some sections they are having more than last year, and in others not so much. We refer principally to New York State and Vermont. We should think that the whole crop will be about the same as last year. The Western States, we understand, will have a very short crop, as well as California, and the prices on extracted honey have already advanced quite a little."

◆

A Tripple Wedding — Golden, China, and Original—occurred July 15 in Grand Island, Nebr. It was the celebration of the golden wedding (50th) of Mr. and Mrs. Wm. Stolley; their daughter, Mrs. Leonardt (her 20th); and another daughter's real wedding. Mr. and Mrs. Stolley are old residents of Grand Island, and have aided in the up-building and development of that locality from its first settlement, having transformed out of a wilderness one of the prettiest spots in central Nebraska. Mrs. Leonardt lives in Texas, and surprised her parents by arriving in time to attend their golden wedding anniversary. Miss Olga, another daughter of Wm. Stolley, was married in the evening of the same day. The local newspaper says it was the most enthusiastic celebration held for many a day—one which will remain fresh in the memory of all who were so fortunate as to be present. As an evidence of the esteem in which Mr. and Mrs. Stolley are held, many letters and telegrams of congratulations were received, even a cablegram from Norway. Many beautiful wedding gifts were displayed. Mr. Stolley is one of the leading bee-keepers of Nebraska, and is well known to our older readers. They were married 50 years ago at Davenport, Iowa, and have had 10 children, all of whom are living except one. We heartily congratulate all three of the couples participating in the celebration. And may both Mr. and Mrs. Stolley live yet many happy years, and never grow old.

◆

The Apiary of J. L. Patterson is shown on the first page this week. When sending the picture, on April 25, 1906, Mr. P. wrote as follows:

I send a picture of 20 up-up-to-date 10-frame hives and 1 "gum" hive. I have already hived 5 swarms. One went off after alighting on the top of a tree. A good deal of my time is occupied with delivering mail. If I had more time I could make a better showing. I do all the bee-work myself.

Vetch has been in bloom for the past 4 weeks, and the bees have plenty to work on. The large tree and the 2 small ones back of the hives shown in the picture are persimmon trees. I planted the seed of the large tree, and the small ones came up from self-seeding. They will be in bloom inside of 10 days. They are the persimmons that grow outside of town in the country, and are very sweet. The house shown in the back of the picture is next door to me. Our residence is in front, and is not shown.

The gum-hive colony has 11 combs in it. A swarm settled in a street-car 3 miles away from Augusta. It came in on the car and scared several passengers, the conductor and motorman from the car, and then swarmed on top of a high monument in Augusta. It came down later and was caught by the next-door neighbor who sold the bees to me for 75 cents. This colony has given me from 12 to 18 swarms. It turns out 8 swarms every spring. A majority of them produce a good deal of honey.

The bees were hard at work on vetch when this picture was taken. There is over 1000 acres of it within a radius of 2 miles of my bees, and it is in bloom now.

J. L. PATTERSON.

On May 7, 1906, Mr. Patterson wrote us as follows:

The bees are at their best, having stopped swarming. The different bee-keepers around here have taken off sealed honey already. Most of my hives have on 2 supers, each containing 27 pounds. The bees have been building comb for the past 2 weeks. One of my colonies now has 54 pounds already sealed.

This year's vetch crop is the best in 12 years. On account of that all the bee-keepers in the South, where they have vetch, ought not to complain about not having any honey this year. Those who don't get honey are lazy bee-keepers that don't look after their bees. The trouble is they don't take enough interest in them, nor do they read the American Bee Journal. If they followed its teachings they would have success. I think it is a great bee-paper. J. L. PATTERSON.

On July 2, 1906, we received the following from Mr. Patterson:

From the first hive on the top row I have taken 73 pounds of the finest honey I ever ate. I get 12½ cents a pound for it. I will get later, when I take off honey again, 127 pounds all together from this same colony. Every one to whom I have sold honey say that my bees produce the best honey they have ever eaten. I helped 2 other bee-keepers take off their honey, and it is not as good as mine. Probably the American Bee Journal helps me produce better honey. The Journal is the only friend that I have had since I started keeping bees. J. L. PATTERSON.

We should be pleased to learn more about vetch as a honey-plant. It would be interesting to know how far north it will grow successfully and produce honey.

While we appreciate very greatly the high estimate Mr. Patterson puts on the American Bee Journal as an aid to bee-keeping, of course all will understand that reading the Journal *alone* would not produce any honey. Undoubtedly, however, it is a great help to those who will read the experiences of others that are published from time to time, and also the explicit directions that are often given for almost every detail in the management of bees. Every bee-keeper who would succeed should have one or more of the standard bee-books in addition to the American Bee Journal, as there are many fundamental principles and facts that can not be re-stated in every issue of the Journal. It pays to invest in information concerning any line of work in which any one expects to succeed. In other words, it does not pay to "go it blind" in anything. The greater the familiarity with the experiences of others who have succeeded with bees, the less the need of spending time in experiments that will be ultimately unsuccessful. The most rapid success in any business is attained by knowing the pitfalls into which others have stepped, and thus being able to avoid similar failures and mistakes. The American Bee Journal, in connection with one of the best bee-books, will help greatly in revealing the shortest route to success with bees, we believe.

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The Golden Wedding of Mr. and Mrs. E. France, of Platteville, Wis., was celebrated on July 23, 1906. They were early settlers in that part of Wisconsin, having to go over 200 miles by stage to reach their new home. They came from New York State. In the spring of 1862, Mr. France, with his only child, N. E. France, located in Platteville. An interesting account of the golden wedding celebration appears in the Platteville Journal for July 25. Although past 82 years, Mr. France is still interested in fruit and bees. Alton Finney was the only person, aside from Mr. and Mrs. France, who attended both weddings. Valuable presents were received by Mr. and Mrs. France. We wish to add our congratulations to those of others, and trust that Mr. and Mrs. France may enjoy yet many years of wedded bliss.

Contributed Articles

Wintering Bees—Plenty of Well-Ripened Stores the Essential Point

BY GRANT STANLEY

IT may seem a little premature to bring up, at this time, the matter of plenty of well-sealed stores for bees in winter. But I believe that just now is the proper time to discuss it. If we wait until frost has cut off every vestige of bloom it is entirely too late to say much about it, as by this time cool weather is in evidence and robbing will be started with a very small amount of tampering with the bees unless great care is exercised. It is of as much importance that we look into the question of well-sealed stores for winter somewhat in advance of their needs, as it is for the householder to see that he has sufficient fuel provided for the winter, and as honey is "fuel" to bees during their winter's repose, and as many bee-keepers purchase their fuel with the proceeds from the bees, is it not equally important with our bees? We would not think much of a man who would not supply fuel somewhat in advance of his needs, and yet when it comes to the wintering of our bees the matter takes on an entirely different attitude with too many bee-keepers. It is a poor way of living, either with man or bees, to live "from hand to mouth."

The fall of the year is the "harvest time" in which all humanity "lay in" for the coming year, and it is just when the bees should have a good portion of what they have struggled hard to bring home. It has been the opinion of the writer that more bees perish from the rigors of winter from an insufficient quantity of well-sealed stores, than from other causes combined, even including the dreaded diseases of black and foul brood; and the sulphur pit may also be included. If we will but watch the bee-papers closely each spring, we will be surprised at the vast number of colonies that "go over" on account of a scant supply of stores; and then when we take into consideration that only about one bee-keeper in ten reads the papers in this country, how many hundreds of colonies perish, the reports of which never reach the press. This and other causes have led me to write thus early in an effort to awaken an interest.

There is a large class of bee-keepers who will not feed their bees in the fall, even if they know they have an insufficient supply for the winter, preferring to trust, as some men do in all business, to "luck," and the chances of a moderate winter with occasional days sufficiently warm for inspection. If the winter in this case turns out severe, and the bees run out of stores and die, it is of course termed "bad luck." Such bee-keepers as this would benefit the industry and themselves far more if they would stay out of it.

He is also not much of a bee-keeper who will have his bees toil all summer, and then in his greed for gain take honey from them so close in the fall that they have an insufficient amount for winter. But there is a class of bee-keepers that desire to have their bees so well supplied with stores at the approach of winter that no uneasiness need be felt until warm weather has arrived the following spring—in fact, so well supplied that he need not "jockey" his bees in spring with daily applications of syrup to get them up for the honey-flow. To tamper with bees early in spring results in far more harm than good.

I have put a great deal of thought into this subject, as I want my bees to have plenty of well-ripened stores of the same quality I take myself. With the invention of the modern hive, some of them with shallow brood-chambers, compels the bees to store all honey gathered above the frames, or in the sections, and this is just where we want it during all the honey-flow; but if the sections are allowed to remain on the hives until frost, there is sure to be a small amount of honey stored in the brood-chamber for winter—possibly an inch or two below the top-bars. I use these shallow frames, for I believe they possess many points of merit not found in other frames; but the question of such colonies having plenty of well-sealed stores at the approach of winter, and not feed them, caused me no small thought, as feeding is a mussy job, to make the best of it, and always attended with more or less risk. I would discourage it as far as possible, especially with the beginner; yet I would far sooner feed the bees than take any chance whatever on the bees not having plenty of stores. But where plenty of stores can be secured from the fall bloom, and as this fall honey is dark and not nearly as salable as light honey, yet equally good for wintering, I doubt if it will pay to take such stores from the bees, buy sugar, and take the risk and labor necessary to feed them.

The fall of 1905 I removed all supers containing sections, just 7 days before the first frost, compelling the bees to store every drop of honey gathered in the brood-chambers, and I was surprised at the results. So, last fall, I removed the supers on the same date, but as we did not have our first frost so early, they certainly gathered a rich "larder." I had nothing to fear or worry about my bees running short of stores, and more than this, they began brood-rearing last spring with a vim that was little short of marvelous.

Right here let me say, that it is well to remember that bees breed only according to the amount of stores in sight. I did not disturb these bees until warm weather arrived, and when I opened the hives they were fairly boiling over with bees, with new, white wax at the tops of the frames, and plenty of sealed stores in sight. I had sections sealed during apple-bloom the past spring, something I never had before.

Now, in conclusion, I want to say this: Formerly I had about an inch, or an inch and a half, of honey sealed in the tops of the frames for winter, where last fall the hives, when being raised to estimate their weight, seemed like lifting an immense stone. I suppose each hive contained 50 or 60 pounds of honey, all sealed and compactly arranged in the shallow brood-frames.

By all means, see that your bees have plenty of well-sealed stores at the approach of winter; pack them well with good, porous material, and let them alone until warm weather arrives, and when you open the hives in spring you will readily admit that it pays, and pays well. These colonies will come out ahead in spring, and be ahead all through the season.

Nisbet, Pa.

Moving an Apiary 10 Miles by Wagon

BY G. W. M'GUIRE

TO move an entire apiary this distance is quite an undertaking, and the success of the venture largely depends upon care and judgment. Being pushed with other matters, this move was postponed until late. May 13, and 14, the bees were breeding rapidly, and the weather was warm.

Now for preparation: A strong spring-wagon was selected of not less than 3,000 pounds capacity, and across the bed were placed 2x4 scantlings, just far enough apart for the ends of the hive to rest on each piece. Five hives will go in the first row across the wagon, and there will be 5 rows. Now, these are fastened on with strong rope run around this rigging and securely tied to the wagon.

Then an upper set of scantlings are laid on top of the first row of hives, and upon this is placed a second layer of hives. This is again securely fastened with rope and short pieces of lath tacked vertically at the sides and ends to prevent slipping of the hives.

As the preparation is for 50 colonies per load, I want 50 notched sticks to slip over the frame bottom-bars, cut on a slant to fit the Simplicity bevel; and 100 thin strips to tack on top of the frames, 2 to each hive—at each end. Now the frames can't shuffle. Then I want 50 screens of wire-cloth cut 2 inches larger in width and length, so as to lap up an inch on the sides and ends of the hive. This is to be fastened by nailing a thin strip of wood over this into the hive. Many bees are out. It is sunny, and fruit-bloom is at its best. I nail up three sides and leave the front open until dark, when this is cautiously tacked up, and closed. You see the bottom-boards are left off and this screen takes its place.

I leave the hive-covers on, invariably, and don't fasten them with nails. I take a small rope and tie around each end of the hive and then draw the rope, each strand, as near together as you can, making them tight. They should kink like a fiddle-string when flipped with your thumb. You would think they would slip back, but not so.

Well done, the load of 50 hives is ready; the horses are hitched up; a bag of smoker-fuel is thrown on, and the smoker is in full blast; veil in the side-pocket, and a butcher-knife in the hip-pocket. My, what a load! Looks like the stage in antebellum days.

As I go with this historic cargo I meet inquisitive men, anxious boys, and fair lassies, looking on from high windows and vined verandas. The gentle zephyrs of the south wind were playing over thousands of acres of apple and pear in their robes of bloom. So the load was delivered without a mishap, and the hives placed upon the stands. But, oh, my! how these bees do sting after being released!

In less than an hour they were carrying in pollen freely. Two days later, when I returned with another load, the first were fairly crowding their queens with new honey.

Hudson, N. Y.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Requeening—Alfalfa—Selling Honey—Ordinance Against Bees—Bees and Grapes

How often do you advise requeening? Where is a good place to get a queen? I sent away and got the only one I ever bought, and I think a place near home would be better. I don't suppose you recommend a firm or name in your answers. I suppose I should have said, What is the best way to obtain a good queen? Do you advise a beginner to rear his own queens for requeening? It seems to me to be a branch by itself, and would cost more than to buy queens. How much should one pay for a good queen, not a breeding queen?

How do your bees work on alfalfa? I planted some and it is blossoming now, but I don't see a bee in the whole patch. I do not know whether they don't work as well on alfalfa, or whether there is no nectar on account of the cold and wet. The white clover has blossomed profusely for nearly 3 weeks, but the bees prefer to work on raspberry bloom, and I hardly saw a bee on the clover. It is the worst bee-weather ever.

All my former customers are clamoring for "some new honey." Folks who do not handle bees imagine the bees "make" honey. I have never had a bit of trouble disposing of my honey. In fact, I could sell 4 times as much as I have, and I have to put what I want for my own use out of sight or it would all be sold away from me. I sell it right from the house. I have scales and change-box, and weigh the honey right before my customer. I expect to be honest by them, and expect them to do the same by me. I never have any complaints, as I make sure everything is perfect about the honey when I sell it.

Last spring an alderman in the council put in a bill to prohibit the keeping of bees inside the city limits, but it didn't even come up to be voted on. I am told that nearly every spring some one tries to get such a bill through, but always fails. I would feel sorry to have to give up my bees just as I am beginning to understand them.

Is it a fact that bees sting and ruin grapes if there is no other substance for them? I have read in the Bee Journal that they do not sting fruit, but will gather on the fruit previously bruised by birds. A lady in this city, who has quite a large vineyard, says that since a man moved near them who keeps bees, all their grapes are spoiled by the bees. Previous to his coming they always had fine grapes. She says the grapes are always full of bees, and she knows it is "them bees."

(Miss) Elsie A. Cutter.

Grand Rapids, Mich., June 22.

Some advise requeening every year; some every 2 years; and many leave the matter of superseding to the bees. So good a bee-keeper as Mr. Doolittle belongs to the latter class, and that is the practise in this locality. If a queen is doing good work, she is not "Oslerized" on account of age. If her work is poor, or her bees objectionable in any way, off comes her head at the first convenient opportunity. The bees generally attend to the matter of superseding as soon as it is advisable.

After a little experience, you will probably find that requeening is a much simpler matter than you suppose. Mr. M. A. Gill, a very successful honey-producer, buys queens by the hundred every year; but nearly all honey-producers rear their own queens, or leave it to the bees. Just exactly how it is done here is given in detail in "Forty Years Among the Bees," and it would be hard to find a simpler or a better plan.

For the sake of getting in fresh blood, especially if you can get better blood, a new queen should occasionally be obtained from a reliable source. The shorter the distance a queen travels in the mail the better, and yet, a queen will make a long journey in safety. An untested queen will cost about a dollar, and nine times out of ten will be as good as a tested one.

Our bees don't work on alfalfa. There is no alfalfa to speak of near us. There is a field of it about 6 miles away; but the few times we have passed it when in bloom, not a bee was to be seen upon it. With the usual optimism of bee-keepers, we are hoping that when alfalfa becomes more fully established here it may prove as good a honey-plant as it is west of the Mississippi.

I am just a little afraid your white clover this year may turn out like ours—blossoms enough, but bees getting nothing from it.

Don't worry lest the city council pass an ordinance against bee-keeping in the city. It wouldn't stand. But if you are not already a member of the National Bee-Keepers' Association it will be wise for you to join it, and then if such an ordinance should be passed you will have help to fight it. In the meantime, of course, you are no doubt looking out to keep your bees where they are not likely to molest people on the streets.

If you can do so, get that lady who has the vineyard to come to your place with some grapes, and place at the entrance of one or more hives a cluster of perfectly sound grapes, and also a cluster of punctured grapes. She will then see with her own eyes that a bee never disturbs a sound grape—only sucking the juices from those previously punctured. Some intelligent grape-raisers in your State have said they are glad to have the bees clean up the injured grapes, as the dry skins are preferable to the soured pulp.

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Feeding Sugar Syrup Made in a Bread-Mixer

I see some woman (page 163), signing "Colorado," has had many troubles with her bees. I make no suggestions as to remedies; but one thing she did that was ruinous to bees, and most people of ordinary common sense would see it, only they are rushing things so much that they have not time to think. When she mixed that syrup so "beautifully" in the bread-mixer, she would be almost certain to start fermentation in every colony that would feed on it. She would not be allowed to feed it to mine for their full value. I would rather she fed them strychnine. Not one person in a hundred would be likely to have the bread machine so sterilized as to have it fit for such a purpose.

X. Y. Z.

Now that's just like a man, isn't it? To leave a bread-mixer without cleaning it out thoroughly after using it. Bless your heart, the sisters don't do that way; after the utensil is used they put it through such a course of treatment that it is thoroughly sterilized—they don't call it that; they just say it's "clean." I wouldn't be afraid to eat bread mixed by the Colorado sister—would rather like the chance—and I'm sure I shouldn't want to if she mixed it in a dirty dish.

But, really, is it possible that even if a lot of dough were left in the bread-mixer, allowing it to be stirred into the feed, that any serious results would follow, unless such feed were given rapidly very late in the season? Mind you, no assertion is made that such a course would not be hurtful, only the question is an open one until some proof is offered. The little chemists have a way of stopping fermentation, and in the spring it has been considered safe to feed almost anything with sweet enough in it to be acceptable to them.

At any rate, we may thank the brother for calling attention to the matter, and still more if he will give some positive proof of the harm or harmlessness of mixing the feed in a dish not thoroughly sterilized.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Systematic Requeening

J. L. Byer, in the June Canadian Bee Journal, is agitated over the same question that has troubled me the last few years—the matter of replacing failing queens:

> After clipping queens and generally overhauling all colonies, I find by actual count that out of 270 odd colonies just 34 are either queenless or had drone-layers. Of these 34 I happen to know that 32 gave good service last season. Of the remaining 2, one was poor last season, and the other was bought from a dealer last September. This spring she was a drone-layer. Last spring my loss by the same causes was about 10 percent. Of course, it should be borne in mind that I have had practically no swarming during the past two seasons.
>
> It certainly appears quite plausible to assume that if those 34 colonies had *young queens* at their head this spring, they would be a much better-paying proposition than is the case in their present condition.

Each spring I find every queen, and note on the back of the hive her age. If her wings are entire she is marked "one year," as having gone through at least a part of the previous season. As a rule, she goes through that second season and does well, but when she comes to the following spring to be marked "2 years," she may do well that third season or she may not. I believe the wisest plan is to replace her as soon as possible with a *home-grown* queen reared in a good nucleus from a cell that has been capped in a colony preparing to swarm.

My system involves a weekly inspection of every brood-chamber. Occasionally I find nice capped cells. Here is the time to make nuclei—one for every cell. No doubt it would pay to rear queens earlier scientifically, but it means more work and attention when one is busy with out-yards. These nuclei, in a good flow, will look after themselves, and the queen, when fertilized, is ready to be used where needed. Occasionally also we find a failing queen—catch a glimpse of her as she goes around the çorner of a comb, follow her around and kill her. Immediately a nucleus with a laying queen is united with this colony.

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Short Honey Crop—Swarming

The honey crop with me is almost a total failure. One time I did not think we would have enough for our own use, but on looking among the bees I find that some of them will have 20 or 25 pounds of honey in their supers. I do not know what the quality will be like—as a rule, small quantity, poor honey. We have no basswood here, so when the clover is done the season is over with us.

I am at a loss to know what to do when a swarm comes off (about one-third of mine have swarmed out of 150). I have been either doubling them up or returning them to the parent hive. I wish you would be kind enough to let me know what you would do in a like case.

It is rain, rain, here nearly every day. Just now we had a heavy rain; same yesterday, and so it has been all summer, with the exception of a few days.

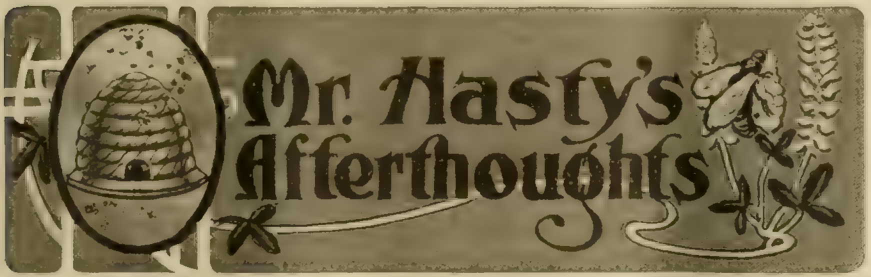
I was talking with Mr. Byer yesterday; he is in the same way—no honey of any consequence. My bees were never in better shape than they were last spring, and they are very strong now, sending off large swarms.

We had a violent hail-storm about the beginning of clover blossom. I think I am safe in putting the loss of my bees into "bushels," as they had bees hanging out on two-thirds or more of the hives; that cleaned them up for 2 weeks. J. F. D.

York Co., Ont.

In the first place, it is not necessary to have natural swarms. But if you do not care to adopt some non-swarming method you would better hive the swarm on the old stand, setting the parent hive to one side. Give the supers to the swarm. In a week remove it to the other side of the swarm to weaken it by loss of flying bees that will go to the swarm. This will likely prevent after-swarming.

In a couple of weeks more the parent hive will likely have a young queen laying nicely. Now hunt out and kill the old queen in the swarm, and unite by setting the parent hive on the swarm—super style. The next week, when the bees have become thoroughly acquainted, get the best combs of brood, honey and pollen into the brood-chamber with the queen, and the work is done.



Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

MASCULINE PRONOUNS ONLY FOR DRONES.

Let me inquire why sauce for goose should not be sauce for gander. Won't let me use masculine pronouns anent the gentle bee (have tried it often), but, lo, in Morley Pettit's column, page 524, "bee.....knocked off *his* feet by the field-gang." Canadian bees must be less persistently feminine than ours.—[Guess that's "one on us," unless it was a "loafer" drone that was "knocked off *his* feet!" And that was not the meaning, of course.—EDITOR.]

ODOR OF WILD GRAPE BLOOM.

Yes, Sister Wilson, the odor of the grape in bloom is one of the most subtile, delicate, penetrating, and, to those that like it, one of the most delightful of perfumes. Many admire it and can not find out where it comes from. Nice to have wire fence covered with grapes. Horses can see the fence then before they run into it and wound themselves. But the wild grape on the young trees of your forestry plot is a destroying nuisance. Page 524.

SEEING QUEENS AT SWARMING-TIME.

Scholl quotes the Texas beginner who wants to see the queen when he hives the bees, but does not mention the somewhat singular fact that thus transpires. Very few brethren have hived as many swarms as I have (not sure that any one has), and in my experience I find I rather rarely see a fertile queen while hiving. Sometimes I take pains to try to see one—and almost *never* see one then. Virgin queens are quite frequently seen; they keep such an everlasting tearing around. Page 525.

BIG TEXAS BEE COUNTY.

So one county of Texas has 17,500 colonies of bees. Ohio, with the same in each county, should have 1,400,000. Page 525.

TASTE OF GOLDEN WILLOW HONEY.

Thanks to Doolittle for the information that the honey of the golden willow is not bitter, but a nice article. I credit my early spring honey to pussy willow (poplars helping before they died off so), and it is too bitter for human eating. Probably excellent, very excellent, as a bees' spring medicine. Page 526.

CAUSE OF FOUL BROOD—SIZE OF BEE'S EGG —PROPER DISINFECTANT FOR TOOLS AND HANDS.

I believe it has been claimed that *Bacillus alvei* is not the cause of foul brood. Rather rank claim—but I guess we should be driven to embrace it heartily if the Cheshire doctrine that honey can not carry the infection was about to be forced upon us. That is, if *Bacillus alvei* is practically never in the honey then something else *which is in the honey* is the infecting cause. But Cheshire's facts would better be respected—saw 5 bacilli swiming lazily along an ovarian tube, and counted 9 in a half-developed egg. A virulence that causes larvæ to die very young seems best accounted for by the theory of infected eggs. But 3 days is a great length of time in the development of bacilli—would not all infected eggs be killed before hatching by the swarm of inbred bacilli, and only non-infected ones be left to hatch?

Valuable items. Size of bee's egg—1-14 inch long and 1-70 inch in cross diameter. Correct strength of the violent poison corrosive sublimate—⅛ ounce to a gallon of water. This to use on tools and hands. Page 528.

BABY NUCLEI AND QUEEN-REARING.

Most gladly will I hold Henry Alley's bonnet while he makes kindling wood, both literally and figuratively, of E. L. Pratt's baby nuclei. Still Satan should have all the dues the truth will allow him—and one point Mr. Alley does not cover. *Why* do the bees of weak nuclei ball queens returning from the mating flight? I take it that it's because they are overworked at feeding brood. Disgusted at every prospect of fertility—which would normally be attractive. "No more babies for Josie—not if she knows herself." Now brand-new and broodless bees have not had a chance to get in this frame of mind. The recent kink of using very few bees, using them but once and throwing them away, has at least a rationale why they might be expected *not* to persecute their queens. The gist of the article is that in the experience of Henry Alley (and who has longer or broader?), nuclei much larger than the "babies" are pretty sure to ball their returning queens whenever they are allowed to get weak. The inference that weaker nuclei must be worse in this respect seems a very natural inference. Page 531.

WRITING FOR COMMON FOLKS—LOP-SIDED FLOWERS ARE NECTAR-YIELDERS.

Here's a club for Prof. Cook for saying "conterminous" when writing for common folks. Most bee folks are not even botanists; and the words necessary to botanical information are enough of a trial without selecting those needlessly puzzling. Say, rather, that the pollen and the stigma of the same flower are not ready to act at the same time.

But splendidly convenient is the rule that he gives that lop-sided flowers always yield nectar. Never thought of it before. Even if it should turn out to have some exceptions, its manifest correctness in the main makes it valuable. Page 530.

Doctor Miller's
Question-Box

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Milkweed Pollen on Feet of Bees

I have sent you under another cover a queen-cage with a few bees. There is something wrong with their legs or feet. There seems to be a growth on them, so that they can not stick to anything. The bees have been carrying them out for 10 days or 2 weeks. They seem all right as far as flying is concerned. The well bees bring them out and don't kill them, but fly off with them, and I think that they find their way back. If I part them when they first come out, one can fly as well as the other. This is something new to me, and I have not read or seen anything in print that describes anything like it.
WYOMING.

ANSWER.—It's mikweed again. See picture No. 2 on first-page cover of the American Bee Journal for July 26, and what is said about it on page 634. No need for great alarm, and there's nothing you can do about it unless you can kill off all milkweed within range. There's some comfort in the possibility that the bees will get enough honey from milkweed to make up the loss.

Removing Bees from Sections—Bees Hanging Out—Bee-Sting Remedies, Etc.

1. What is the best way to get the bees from the sections when I remove a super? (I have no bee-scraper.) If one should take the super a distance from the hive and brush them off, would they go back to the hive or would they get lost?

2. Why do bees collect on the outside of the hive in hot weather? Is it because they have not room enough, or because of the heat? Or is it a sign that they are not gathering anything? Is it any harm for them to do so? If so, how can I prevent it?

3. What is good for bee-stings?

4. How many colonies of bees have you at present?

5. Do they ever gather much honey from basswood? Is that honey as good as clover honey?

6. Do you sell your honey by the section or by the pound?

7. How much honey should a strong colony store in sections in a good season?

8. If a colony should lose their queen, would they rear another? If so, would she be as good as the old one?

9. If a colony should lose its queen, would they continue to gather honey as well until another one was reared?
MAINE.

ANSWERS.—1. The Porter bee-escape is a nice thing to use if you have time to wait for it; and if you want more prompt work there is perhaps nothing better than the Miller tent-escape, which latter you can make yourself. But as you say you have no escape, it is probable that you do not have enough honey to make it worth while to have an escape; yet I think if I had as many as 5 colonies I should make a Miller escape. Without having an escape there are several ways to proceed. The way you speak of will work, for if you brush off the bees either close to the hive or several rods away, they will find their way home again, unless there be some bees on the section so young that they have never left the hive—a thing not likely to happen. You may also set the sections right on the hive, or stand the super against the hive, allowing the bees to come out at their leisure. When honey is coming in very freely, it will be safe to do this in broad daylight; but too generally there is danger that it will start robbing. The safer way is to place the sections in the evening just after the bees have stopped flying. The bees will most likely be all out before morning, and you can take up the sections before the bees leave the hives. Another way is to pile up several supers in a pile, bee-tight at the bottom, and over the top spread a sheet or other covering that is bee-tight, but will let the light through. From time to time lift off the sheet and let the bees that are above escape, and in the course of a few hours all ought to be out. Whatever way you do, it is well to smoke down a good part of the bees before removing the super; but don't be too lavish with your smoke or the honey will taste of it, and smoke doesn't improve honey as much as it does ham.

2. It may be because there is too little room in the hive; it may be because there is nothing to do in the fields; it may be partly for both reasons. Sometimes giving more room will stop the clustering out; sometimes giving more ventilation. Don't worry about their hanging out if there is nothing to do in the fields; they may as well loaf outside as inside.

3. Get the sting out as quickly as possible, and think about something else. Putting mud on the place is a good thing; also honey.

4. I don't know, for there are maybe a half-dozen that it's hard to tell whether they are full colonies or nuclei. Leaving these out of the count I think there are 164.

5. There are very few basswoods in this vicinity, but this year the dearth has been so great that what little the bees got from basswood was quite acceptable. Basswood first opened June 29, and was entirely gone July 16, lasting 17 days. The honey ranks with white clover. Probably most persons prefer white clover, but some prefer basswood.

6. By the pound.

7. That depends very much upon the honey-resources of the locality. In most places 30 pounds is a pretty fair yield, in an average season; and 50 to 75 in a good season.

8. A colony losing a queen when young brood is present in the hive may be counted on to rear another. She may not be as good as the old queen—she may be better. If reared at a time when honey is coming in freely, she is likely to be, while a virgin, much the same as her mother. If she meets a very good drone she may be better than her mother; if she meets a poor drone she may not be as good as her mother.

9. Not likely.

Caucasian Queens and Bees

What is a Caucasian queen like in color? Are Caucasian bees good honey-gatherers? Are they gentle bees? Are they any better than Italians? Will they fight the bee-moths? The reason I ask these questions is, I won as a prize a Caucasian queen; it was sent to me, and was just like mine, as near as I could tell, in color.
MARYLAND.

ANSWER.—Caucasians are new yet, and it is hardly fully settled just how they are to be considered. It is generally conceded that they are extremely gentle, and as to other points there is a difference of opinion. Italian queens vary in appearance, and it is likely Caucasians do; so it would be nothing strange to find a Caucasian queen and an Italian queen looking very much alike. You will be able to judge more by the appearance of the workers than by that of the queens. If you will turn to page 249 you will find pretty full information about them.

Swarming—When to Take Off Supers—Wintering in Open Shed

1. I have 7 colonies of bees, and but one has swarmed so far. I took the new swarm and set it on the old stand and moved the old one to one side and drained about all of the workers from the old colony. Was that right? I have 2 hive-bodies and 1 super on the new colony. They are all full of bees. Will they swarm this season?

2. Another colony has 3 bodies and 3 supers full to the cover with bees, and they are also hanging out in front. Will the queen lay in all 3 bodies? and will they swarm?

3. What time in the fall should I take off supers?

4. Will the bees be all right under an open shed in the winter? VERMONT.

ANSWERS.—1. Your manipulation was all right unless it be the draining of about all the workers from the mother colony. If you drained too close, and especially if a cool night followed, the brood might be chilled. No need to pay any attention to the number of bees in the old colony; leave them all, and a week later move the old hive to a new place; that will drain the colony of all the field-bees, which will join the swarm.

2. I don't know the size of your hive-bodies. If they are 8-frame Langstroth, which is perhaps the most common size, the queen will not occupy the 24 frames, nor anywhere near it, although she may have more or less brood in all 3 stories. There is possibility, but not much probability, that the colony will swarm.

3. Don't wait till fall; take off each super when it is filled and about all sealed, and as soon as the harvest is over, take off everything. If, for example, you have no harvest after white clover, then as soon as white clover ceases to yield, take off everything, and that may be anywhere from the middle of July till the first week in August.

4. Yes, with packing around them.

Reports and Experiences

Honey Prospects Fairly Good

The prospects are fairly good for honey this season. White clover is plentiful. The rain of July 14 and 16 gave it a new start, and the bees are busy on it now. I also had some honey from fruit-bloom, one colony storing about 25 pounds of it, mostly from apple-bloom. JAS. F. CIHLER.

Algoma, Wis., July 19.

Bees Just Make a Living

Last year my honey crop was about 3000 pounds, but so far this season I have taken nothing. It is pretty dry here. Bees are just about making a living, but no more.

JOHN W. JOHNSON.

Canton, Mo., July 30.

Rabbit-Foot Clover

I send several plants which appear to me to be a kind of clover. C. J. THIES.

Pepin, Wis., July 20.

[The specimen is indeed a clover, and is commonly called "Rabbit-Foot" or stone clover—*Trifolium arvense*—and thrives well in old fields and waste-places.—C. L. WALTON.]

Had a Fine Honey-Flow

We have had a fine honey-flow here, the only thing bothering us being windy weather—something unusual here. It was a sight to see the bees fly so near the ground when working in the windy weather.

I have extracted 6400 pounds from 59 colonies, and honey is still coming in. Surely there were tons and tons of honey that went to waste here. The white clover fields are very white.

A few of our best honey-plants are fruit-bloom, dandelion, willow, 2 or 3 kinds of raspberries, white clover, alfalfa, buck-bush, smartweed, and 2 other flowers that bloom in August and September, of which I do not know the names; and there are quite a few mixed in with these that yield some honey.

The land is very rich here in Southwestern Iowa. I don't believe the plants can help yield honey. The honey comes in when it is cold, and it comes in when it is hot; when it is dry, and when it is wet. T. L. SHAWLER.

Mills Co., Iowa, July 15.

Crop Barely One-Third—Smartweed Honey

The honey crop here will be barely one-third, on the average. Basswood bloomed heavy, but absolutely no honey in the bloom. We have had a prolonged drouth which is not broken yet.

I wish to correct Mr. Hasty on page 619. Six years ago a dry summer was followed by a wet fall, and heartsease, or smartweed, came in everywhere. I got 1000 pounds of pure heartsease honey. It was almost as white as white clover, and fully as good, both in body and flavor. IRVING LONG.

Marceline, Mo., July 21.

Almost No Surplus Honey

The surplus honey crop will be almost nothing in this section of the country this season. Weak colonies will probably require feeding. W. H. PRIESTMAN.

Pontiac, Ill., July 23.

Honey Crop Good Some Places

The honey crop has been short all over the greater part of this State, but in my bee-range it was good in June. I have taken almost 4 supers of comb honey from each of several colonies, and 25 full Hoffman frames of extracted honey from one colony of Italians, up to date. The Italians had to make their combs from full sheets of foundation, too, for I had no ready-built combs.

I think we will have a good crop of honey from fall blossoms.

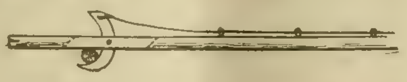
May the American Bee Journal ever prosper, as it has done, is my wish.

E. G. GUTHREY.

Malta Bend, Mo., July 23.

Taking a Swarm from a Tree

I have made a device for taking bees out of a tree. It is simple and easily made. It is made like this:



Mortise a hole in a pole for a hook made of sheet-iron one-eighth or 3–16 inch thick. Then make a hole in the other end; put in a No. 6 or No. 8 wire about 2 feet shorter than the pole; have an eye in the end of the wire to tie a piece of line. (The pole can be used for a Manum swarm-catcher without taking the other off.) When a swarm gets in a tree where you can't use the Manum, put the end of the pole over the limb until the hook catches it: pull on the wire, and grip the limb and make the line fast; put staples in the pole to stiffen the wire. To open, shove up the wire.

I have had bees only 2 years, and don't know much about them. I had 4 colonies this spring, and have caught 2 swarms. I have one colony that is wicked. They are a yellow, fuzzy bee, with orange-colored bands. The moment the cover is raised they are at you. Smoke does no good. They will fight me, fight the smoker, and everything on the place. We have to keep the house shut for 3 or 4 days whenever anything is done with them. They were bought for Italians, but I think they are Cyprians. They have not swarmed since I have had them. They are good workers. I had them in a 2-story 8-frame hive. G. McC. WILKINSON.

Corpus Christi, Tex.

Bees Not Doing Well

I have been in the bee-business 40 years, and have 127 colonies. They are not doing very well. I don't expect over 2000 pounds of honey this season. JOHN ROLLER.

Richmond, Wis., July 27.

Expects Good White Clover Crop

Bees are doing well. I will commence to extract to-morrow, and expect a good crop of honey from white clover.

E. H. HANSELMAN.

Eau Claire Co., Wis., July 23.

Not Half a Crop—Swarming

There is less than half a honey crop here this season. The first extracting is very dark honey, mostly from the oak-trees. There is a little white clover, but hardly any basswood, as the basswood blossoms are destroyed by an insect which is enlosed in a foamy slime. They destroy the blossoms which dry up and fall.

There is not much swarming here, but to prevent it altogether we must first find out C. Davenport's secret. I see on page 602 he criticises what Mr. Philbrook says on page 383. I used that same plan of putting the queen below on frames with full sheets of foundation and the brood on top with a queen-excluder between. This stopped swarming almost entirely, but it is not infallible.

Now, Mr. Davenport says, on page 603, that by his plan of treatment for prevention of swarming there is no cutting of cells, searching of queens or jumping of hives around, and the frames are not removed; and on page 186 he says the time required for an operation is from 3 to 4 minutes to a colony;

200 Standard-Bred Italian Honey-Queens

BY RETURN MAIL

We can mail **AT ONCE** 200 of our fine **Standard-Bred Untested Italian Honey-Queens** at these special prices:

1 for 70c; 3 for $2.00; 6 for $3.75; 12 for $7.00.

Or, 1 Queen with the Weekly American Bee Journal for 1 year—both for $1.40. Or, we will send one **Free as a Premium** to any subscriber (whose own subscription is paid up at least to the end of 1906), for sending us $1.00 and the name and address of a **NEW** subscriber for one year.

Here is an unsolicited testimonial taken from many similar ones:

GEORGE W. YORK & Co.—The Queen received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line. E. E. MCCOLM.

Marion Co., Ill., July 13, 1905.

Better order at once if you want some of our fine Queens. Address,

GEORGE W. YORK & CO., 334 Dearborn St., CHICAGO, ILL.

then the next day, or within 15 days, another operation of less time.

We will take for example a colony which is ready to swarm soon, with some of the cells sealed, the hive being either 1 or 2 stories, which we want to treat. What can we do with this colony to prevent swarming? After considering the operations we are not allowed in Davenport's method of treatment, the work we can do on said colony is very limited. I suppose we can take off the cover, maybe also the bottom-board, and we might give the bees a good smoking, and a few like operations; but I don't know if any of these will prevent swarming—not so with me. We'd better hand this question to some of our expert and specialist bee-keepers to answer.

Mr. Davenport ought to have his plan patented, and offer his secret for sale. He probably could make a fortune out of it, as it seems that is what he is after. If he wants it for his own use, he ought not to have made public that he has such a secret. He also says if it is given to the world by others, the responsibility will not be his; and neither would the benefit be his, I am sure.

Wisconsin, July 19. H. F. MAEDER.

CONVENTION NOTICE.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

Massachusetts.—First field-day of the Massachusetts Society of bee-keepers will be held on Aug. 11, 1906, on the farm of Geo. Adams, in Byfield, Mass. Practical demonstrations will be given of all branches of bee-culture. A big queen-hunt with a prize of a queen for the first one who finds her. Mr. Adams furnishes plenty of fresh milk and hot coffee, and every one is to bring a basket lunch. Train leaves the North Union Station (Boston) for Ipswich (from there take the trolley) at 10:10 a.m. Fare, 75c each way. Come with your friends and spend a happy and profitable day. Please notify the Secretary if you intend going, but if you can't notify come just the same. Plenty of trains later in the day for those who can't come early. FLORENCE B. RICHARDSON, Sec.

64 Sharon St., West Medford, Mass.

Moore's Strain of Italians
AS RED-CLOVER WORKERS

L. C. Medkiff, Salem, N. J., says: "I bought an untested queen of you last year, and her bees have filled 3 comb-honey supers, and did not swarm, while 13 out of the 15 other colonies did not get more than half that amount.

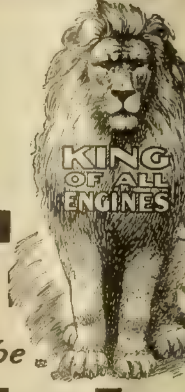
"I have queens from 6 different breeders, and I class yours 100 percent above them all. Your bees worked very strong on the first crop of red clover. I know they were yours, because I floured them with a dredge-box and watched the hive. They also worked strong on the second crop of red-clover and lima-bean blossoms."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders **By Return Mail**, and shall probably be able to do so until the close of the season.

J. P. MOORE, R.F.D. 1 **Morgan, Ky.**
26Etf Mention Bee Journal when writing.

"It is continuous advertising that impresses the public with the stability of a firm."



The Lion Engine
is sold direct from FACTORY to USER

Acting on the theory that "testing is proving" we will send any responsible person, on certain very easy conditions, one of our three h. p. gas or gasoline engines on **10 days test trial.**

This engine is **no experiment**, but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

Our igniter and mixer are of the most simple and reliable character. The gasoline is always properly vaporized and the igniter point never comes together unless a spark is required.

The fly ball type of governor is used, which automatically controls the exhaust, igniter and the gasoline; it also allows the speed to be changed from 100 to 600 revolutions per minute while the engine is in motion—**a very superior feature.**

LION GAS OR GASOLINE ENGINES
are simple in construction and
EASY TO OPERATE

They are used for all purposes where power is required for operating private electric-lighting plants, small factories, printing offices; farm machinery, such as cream separators, feed-grinders, corn shellers, wood-sawing machines, etc., and for a thousand and one other purposes.

WRITE US A LETTER LIKE THIS:

LYONS ENGINE CO.,
Lyons, Mich.

Gentlemen: I am about to purchase a gas or gasoline engine for ________ purposes and wish you to send me full particulars about your approval offer as advertised in American Bee Journal. Yours very truly,

Name ________
Town ________
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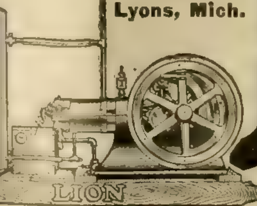
When writing, please **state definitely** for what purpose you wish to use this engine and whether gas or gasoline is to be used for fuel. **This information is very important to us.** Please remember we send the engine, **not the engine agent.**

LYONS ENGINE CO.
Lyons, Mich.



Italian Queens

Red Clover and 5-banded strains. Untested Queens, 75c; Select Untested, $1.00; Tested, $1.50; Select Tested, $2.50.

H. M. PARKER, JR.
30Atf JAMES ISLAND, S. C.
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Yellow From Tip to Tip

My Adel Queens and Bees are exceedingly handsome. Non-swarmers and practically non-stingers. Hustlers for honey; in fact, are regular Red Clover Bees. Each queen, $1. Catalog ready. HENRY ALLEY
30A6t WENHAM, MASS.

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If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to
20Atf A. COPPIN, Wenona, Ill.

Low Rate Excursion to New York

On August 28th and 29th, the Nickel Plate Road will sell tickets to New York City and return, at rate of one fare plus $2.00, from Chicago. Return limit, September 4th, leaving New York City. For detailed information, call on or address, John Y. Calahan, General Agent, 107 Adams St., Chicago.
21—32A3t

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"Original
Direct Draft
CLEAN
Bee Smokers
Pat'd 1878, '82, '92 & 1903
4 Largest Sizes Soot Burning
Never Go Out
And last from 5 to 21 years

Tin 4-in. Smoke Engine 3½-inch 3-inch 2½-inch 2-inch Wonder
$1.50. $1.10. $1.00. 90c. 65c—per mail.
Sent on receipt of price per mail.
T. F. BINGHAM Farwell, Mich.

OTISVILLE, PA., Jan. 18, 1904.
Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

Meet W. J. Bryan

in New York City, upon his return from Europe, and take advantage of the low rate excursion over the Nickel Plate Road, from Chicago, August 28th and 29th. Tickets good returning leaving New York City September 4th. Chicago depot, La Salle St. Station. Information furnished upon application to John Y. Calrhan, General Agent, 107 Adams St., Chicago.
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Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS** now. Write to-day. Address,

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Will save you money. We will buy your Honey and Beeswax, and pay highest market price. It will pay you to correspond with us when your crop is ready to market. No shipment too large for us. Carloads a specialty.

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And Prompt Shipments

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Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

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Italians—Carniolans—Caucasians

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Our prize offer on honey-production is extended to Oct. 1st for those who wish to try our "Pure Gold Queens."

We call special attention to the superior qualities of our Red Clover Italians and Yellow Caucasians which are worthy the attention of progressive bee-keepers.

PRICES AFTER JULY 1

Italians and Carniolans, Select, Untested, 75 cents; six, $4.00.
Caucasians, Select, Untested, $1.00; six, $5.00.

Banat Queens for those who wish them.

Special prices for larger orders and breeding stock will be given on application. Write for Catalog.

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Italian and Caucasian

BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen.....	$ .65
" Tested Queen.......	.90
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" Breeding Queen.....	1.65
1-comb nucleus (no queen)	.80
2 " " "	1.40
3 " " "	2.00
1 Un. Caucasian Queen,	1.25
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Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

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A special discount is offered on all Queens and Bees ordered to be delivered before the close of the season of 1906. Pure stock, pure mating, and **excellence in grade** guaranteed. Address,

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I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

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I can furnish a limited number of Queens of this popular variety, bred from a Tested Queen sent me by the Agricultural Department, all mated in a mating yard away from all other bees, so that all of my Queens will be almost sure to be purely mated. These choice Queens only $1.00 each. **C. W. PRICE**
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Queens By Return Mail

Queens from our fine strain of 3-band Italians will not disappoint you; bees are gentle and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c, $6 per doz. Tested, $1 each.

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——ITALIANS——

Price of Golden Queens. Before July 1st: Untested, $1 each: 6 for $5; 12 for $9. Warranted $1.25 each; 6 for $7; 12 for $13. Tested, $1.50 each. Select Tested, $2. After July 1st: Untested, 75c each; 6 for $4; one dozen, $7. Warranted Tested, $1.25 each; 6 for $7; one dozen, $13. Tested, $1.50; Select Tested, 2; Breeders, $5. Caucasian Queens will be ready to mail July 1st; Untested, $1 each; 6 for $5. Warranted Tested, $1.40 each; 6 for $8.

We have three yards—two Italian and one Caucasian—and mean to meet the demand of the trade. Prices of Nuclei on application.

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to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

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Complete Stock for 1906 now on hand.

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are the LOWEST, ESPECIALLY for the SOUTH
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You will SAVE MONEY BUYING FROM ME.
Satisfaction Guaranteed.
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Let me book your Order for **QUEENS** bred in separate apiaries, the GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI OHIO.
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, July 9.—Market is practically bare of comb honey, and while a little sells at about 15c for the best white grades, there is little volume to the trade. Extracted is in some demand at 6@7c for the best grades, but off flavors are about unsaleable at 5@5½c. Beeswax selling upon arrival at 30c. R. A. BURNETT & Co.

TOLEDO, July 30.—The market on comb honey at this writing is rather unsettled, as dealers are waiting to see what the market is going to do. There has not been very much honey offered as yet and bee-keepers seem to be holding their crop for a larger price. Fancy white comb would bring here in a retail way 14@15c; some extra lots, 15½c; No. 1, 14c, with very little demand for lower grades. Extracted white clover in barrels would bring 6@5½c; cans the same. Beeswax 26@28c.
GRIGGS BROS.

INDIANAPOLIS, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, July 21.—Advices from different points are rather conflicting regarding the crop of honey this season, and consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted honey at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, July 10.—We still have some demand for comb honey, mostly for white grades, which sells at from 13@14c, according to quality. A very limited demand for light amber, with sufficient supply, and prices ruling at about 12c. Extracted in fairly good demand, with sufficient supply to meet all requirements. Quite some arrivals from the South, and common grades are selling at from 50@58c per gallon, and better grades at from 60@65c per gallon. California strong, and white is selling at from 7@7½c, and light amber at from 6@6½c. No near-by honey in the markets as yet. Beeswax steady at 30c per pound.
HILDRETH & SEGELKEN.

CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

DENVER, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, July 5.—The honey market here is almost bare and there is very little new stock coming to market. On account of the poor wintering of the bees, very little honey has been gathered. The market for the best white honey in 24-section cases is $3.25@$3.40 per case; amber and other grades are 25@50c per case less. There is no new extracted honey on the market, but a little old is selling at 5½@6c, but scarcely any demand. We look for a good demand later. C. C. CLEMONS & Co.

CINCINNATI, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¼c. Beeswax, 30c.
C. H. W. WEBER.

Wanted

To sell lot of 300 empty 60-lb. capacity Honey-Cans. All in one lot, or less quantities. Cans are in first-class condition.

We are also in the market for Fancy Comb and Extracted Honey. Correspondence solicited

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643 Broadway S.E., Cleveland, Ohio.
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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., AUG. 16, 1906 No. 33

Apiary of an Amateur—L. L. Whitson, of Blue Island, Ill.
(See page 702)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

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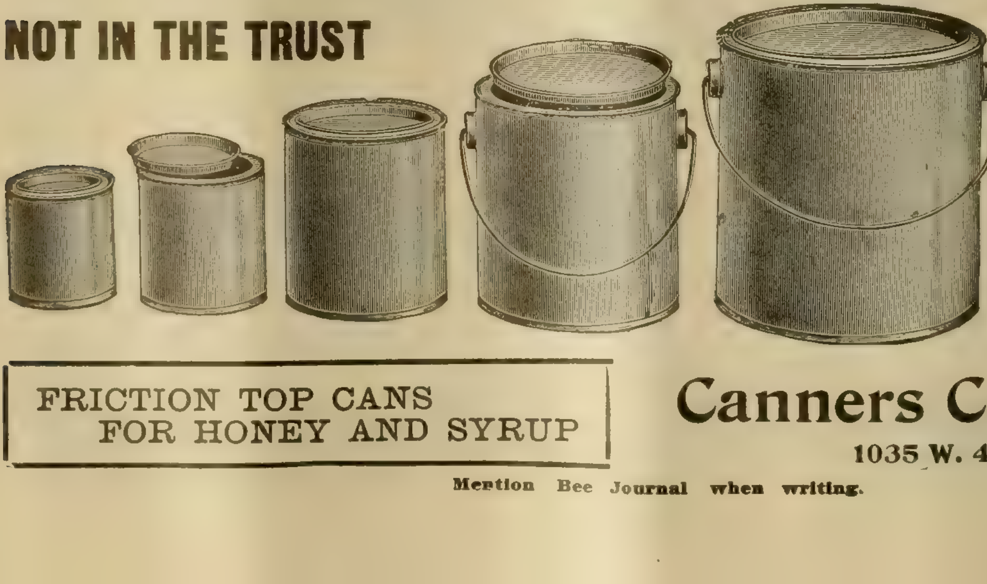

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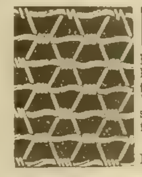

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At this season of the year Supplies are wanted without delay. The crop is being harvested and must be put up for market. Shipping-cases and honey-packages of all kinds are in demand. We are in position to fill your orders with the greatest promptness. With full stocks at all branch houses and agents everywhere fully stocked, your order has best possible attention. Look over list below and find the branch or agent from whom you can obtain Root's Goods quickest and at the least transportation charges.

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Five-Gallon Square Cans

This is the favorite package for shipping extracted honey. There can be no shrinkage and consequent leakage, no taint to the honey as is often the case with wooden packages. The cans being square, economize space and are easily boxed.

As we have an overstock of cans for honey we make the following special prices on cans from Medina, to reduce stock. If ordered from any of our branches or agencies east of the Missouri River, add 5c a box or 50c per 100 cans to cover freight to those points.

No in a box	Capacity of each Can In gallons		In honey	Price of 1 box	Price of 10 boxes	Weight of 1 box
1	5-gallon can boxed	60	pounds	$ 50	$ 4 50	10 lbs.
2	5 gallon "	60	"	75	7 00	15 lbs,
10	1-gallon "	12	"	1 25	12 00	20 lbs.
12	½-gallon "	 6	"	1 25	12 00	20 lbs.
24	¼-gallon "	 3	"	1 75	16 50	25 lbs.
100	1-gallon "	12	"	10 00	95 00	110 lbs.
100	½-gallon "	 6	"	8 00	75 00	80 lbs.
100	¼-gallon "	 3	"	6 00	55 00	60 lbs.

In lots of 50 boxes or over we will furnish the 60-lb. cans, two in a case, at 65c a box.

Half-pound Tumblers

These are to supply the increasing demand for a cheap jar for holding one-half pound honey and retailing for 10c. We can supply these tumblers at $4 a barrel holding 24 dozen. For less than a barrel we will repack for 25c per dozen, or put them up 4 dozen in a case ready to be reshipped when filled at $1 per case; 10-case lots at 95c. At present these are in stock only at Medina.

No. 25 Glass Jar

This is a very neat, clear glass jar holding 1 pound of honey We have sold this jar for years and in larger quantities than any other. Put up in reshipping cases of 2 dozen each. Prices same as the Simplex Jar.

Simplex Jar

The handsomest glass package on the market. Your honey in this package will find a place among the finest novelties on the grocery shelves. Create a demand for your honey by packing in the best possible manner.

We are now prepared to offer the Simplex and the No. 25 Jar put up in partitioned reshipping cases of 2 dozen each at $1 per case; 10-case lots at 95c per case.

Address branch nearest you.

THE A. I. ROOT CO., Factory and Main Office, Medina, Ohio

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AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor CHICAGO, ILL., AUGUST 16, 1906 Vol. XLVI—No. 33

Editorial Notes and Comments

Keep Up Your Membership in the National

If you should allow your fire insurance to expire, and the day after its expiration your house were to burn down, you would not expect to get any insurance; or if you should expect it you would be disappointed, for no fire insurance company would pay anything on an expired policy. Even if you should renew the day after the fire, that wouldn't help the case a particle; to be of any avail the policy must be in force at the time of the fire. Most persons understand this, but some seem to think that the same does not hold in the case of their membership in the National Bee-Keepers' Association. Why should there be any difference? If you do not make your annual payment promptly before your membership expires, and the day after it expires some accident with bees occurs in which you need the help of the National, what right have you to expect it? The only safe way is to *keep* your membership paid up.

◆

Drone-Cells for Queen-Cell Cups

Some who would like to try the Doolittle plan of rearing queens are deterred by the lack of the artificially prepared cups. L. B. Smith says he prefers drone-cells, and thus gives in the Rural Bee-Keeper his plan of proceeding:

> To rear good queens without dipping or compressed cell-cups, go to any colony that you know has some old black drone-comb (the older the better) that the bees have polished up for the queen to lay in. Cut this out (and you might replace it with worker-comb while you are at it), and cut it into strips of one row of cells each. If there are eggs or newly-hatched larvæ in them they must be destroyed or the bees will build over them. Now attach these strips of drone-comb to the cell-bar with melted beeswax, as you would the artificial cell-cups; cells pointing down when the cell-bar is in position. Take a thin-bladed sharp knife (it is best to have the knife hot) and trim the row of cells a little more than half-way down. This done, flare the mouth of every third cell on the cell-bar, by pressing the rubber end of a common lead-pencil in it. This will cause them to look very much like queen-cells just started. You can prime these with royal jelly like the artificial cell-cups if you wish, but I find that of no use.
>
> Now go to the breeder, lift out the little larvæ and place them in these prepared cells. Hang the frame in the cell-building colony, and these cells will be accepted and built out the same as any queen-cells. This old, thick, black drone-comb makes a good, heavy base for the cells, and is far superior to any artificial cell-cups for my use. I use drone-comb altogether now.

◆

No Glucose Comb Honey

Mr. Ernest W. Reid, of Lemon, Mich., wrote us as follows on Aug. 6:

> EDITOR AMERICAN BEE JOURNAL—
>
> *Dear Sir:*—On July 28, I mailed you a copy of the Flint Daily Journal of July 25, containing a picture which represented, among the other adulterated foods, a section of comb honey. I stated that I would make some experiments in order to ascertain whether or not bees would take glucose, and that if they failed to take it I would write the editor as best I could regarding the matter. I failed in inducing the bees to take the glucose, and I am enclosing the letter written to the editor, and which he published.
>
> I believe it would be a good thing to have available for publication by the various newspapers, etc., that print fibs about honey, reports from the several agricultural departments, showing that their experiments have failed in getting bees to take glucose.
>
> I would very much like to hear through the columns of the American Bee Journal about the experiments of others in feeding bees glucose. I suppose there are none who have succeeded in getting the bees to take it, yet if by any possibility they will take some brands or kinds, then it is best for bee-keepers to know about it, as, of course, it would not do to publish that bees never take it if the opposite is sometimes the case.
>
> ERNEST W. REID.

The letter published in the Flint Daily Journal from Mr. Reid, is as follows:

> In the Daily Journal of July 25, in the picture on the front page, I notice among the other articles of adulterated food a section of comb honey labeled, "Glucose Honey." I wished to write immediately in regard to the matter, but wanted to try some experiments to determine whether or not bees would take glucose; that is, I wished to be able to say to the public that I had tried the experiments personally.
>
> For the last 10 years I have been a close observer and a constant reader of many of the books and journals devoted to bees and honey, and was thoroughly convinced bees would not take glucose, and now have tried the several experiments and have utterly failed to induce the bees to take the stuff.
>
> Several years ago a canard was started about comb honey being made by machinery; combs made by machinery, filled with glucose and sealed, all done by machinery. This yarn has so often been refuted that the well-informed thinking public do not for a moment give it credence, and as the bees will not store the glucose, the simple fact remains that there is no glucose comb honey in existence.
>
> There has been an enormous amount of harm done the bee-keeping industry by the misrepresentations about honey, thus lessening the consumption of one of the most delicious and nutritious foods placed upon the market.
>
> If you would kindly publish the above, or place the facts before your readers in some way, it would be appreciated.
>
> Very respectfully yours,
> ERNEST W. REID.
>
> Flint, Mich., July 31, 1906.

We wish to commend Mr. Reid on what he has done in this matter. He followed it up, and succeeded in having the truth about comb honey published where appeared only a picture misrepresenting comb honey.

It seems that there are many newspapers that are willing to publish that comb honey is manufactured, the comb being made, filled with glucose and sealed over, all being done by machinery. In some cases it is stated that bee-keepers feed glucose to their bees and thus produce the so-called honey. Of course, the public knows nothing whatever about honey-production, and so can not be blamed very much for believing what they read concerning it. Also, they have read so many times during the past 25 years that com honey is manufactured without the aid of bees, that they have come to believe that it is true. All bee-keepers know that comb honey has never been produced except by bees.

It is true, however, that a certain small bee-keeper in the East published about a year ago an article with illustrations, endeavoring to prove that regular honey-comb was manufactured something like 30 years ago. In fact, he seemed to attempt to defend the misrepresentations first given to the public by Mr. Wiley over 25 years ago. All that was ever made was simply deep-cell comb foundation. Something like that was experimented with a few years ago at the expense of about $2000, and then was discontinued, the dies, etc., being destroyed. It was not a financial success, and so nothing further was done with it or said about it. Even if a single pound of machine-made honey could be produced how foolish it would be to continue to refer to it when not a commercial success, as, of course, its manufacture would not be continued, and so of course none of it would be found on the market to compete with the genuine comb honey produced by the bees.

◆

The Temper of Hybrid Bees

The Irish Bee Journal tells an inquirer that the first cross between Italians and blacks "results in bees of uncertain temper, and sometimes difficult to handle," but "the characteristics show less uncertainty of temper with succeeding crosses." Is it not the other way in this country? Certainly some have reported that viciousness of disposition has increased with succeeding generations. How is it with others?

Miscellaneous News-Items

The Washington State Bee-Keepers' Association is officered by the following: Anson White, President; Arthur Hanson, Vice-President; William P. Clarke, Treasurer; and Virgil Sires, of North Yakima, Secretary.

◆

Fifty Years a Bee Keeper.—Geo. S. Wheeler, of New Ipswich, N. H., wrote us as follows lately, when renewing his subscription for another year:

> "I am always interested in the 'old reliable' American Bee Journal, having had it to read on and off since it was published in Washington, D. C. This is my 51st year in bee-keeping, it having been 50 years on June 22 since I had my first swarm."

◆

The Apiary of L. L. Whitson, of Blue Island, Ill., is shown on the first page this week. When sending the photograph, early last spring, Mr. W. wrote as follows:

> EDITOR AMERICAN BEE JOURNAL:—I am mailing you a photograph of my small apiary of 7 colonies. It also shows the bee-house attached to the barn. I built it just like an ice-house, for the purpose of wintering the bees and using it for a work-house in summer.
>
> My place is located in the city, and I can't keep any more than 8 or 10 colonies. I expect some time to locate where I can have a place for a few hundred colonies.
>
> Two of the hives shown, Nos. 10 and 12, I moved on July 12, 1905, both being swarms a few weeks before. By moving them over 1½ miles I thought I would surely lose them, but such was not the case. No. 10 gave me 21 pounds of honey, and was in good condition. No. 12 was good and strong in the fall.
>
> This will be my third year as an amateur bee-keeper, and I have received most of my information from the American Bee Journal.
>
> L. L. WHITSON.

There are many amateur bee-keepers in this country who are deriving not only considerable pleasure from their bees, but also quite a little honey. One of the most successfu bee-keeping amateurs we ever heard of, lived in Chicago some years ago. He owned a 25-foot lot, and on the back of it kept his bees. He averaged something like 100 pounds of comb honey per colony about the third year, from 8 or 10 colonies. He was employed in a bank during the day, and cared for his bees mornings and evenings. The honey was gathered mostly from sweet clover, of which there was a large supply within easy distance from his apiary.

Mr. Whitson certainly has a very neat little bee-yard, and some day, should he locate where he can have several hundred colonies, as he mentions, no doubt he will become one of the leading bee-keepers of this country. Nearly every one who succeeds in any calling begins in a small way, and increases his business with his experience. This is the safest way. "Slow, but sure" is best.

Father Langstroth—the inventor of the movable frame which so revolutionized bee-keeping in this country—never was an extensive bee-keeper, and yet he wrote the best book on bees that had appeared up to his time. While large numbers of colonies are all right for gaining certain kinds of experience, it is often from a smaller number that special investigations and experiments can be conducted most successfully. The bee-keeper who numbers his colonies by the thousands, and his apiaries by the tens, often has not the time to conduct experiments or discover certain valuable things. Many interesting things can be learned from the manipulation of less than 10 colonies. Of course, it may not be considered commercial bee-keeping, nevertheless it is all right. The extensive bee-keepers, as well as the smaller ones, are all needed to constitute the apicultural business as it exists to-day. All can not be Capt. Hetheringtons, neither would all care to remain amateurs like Mr. Whitson and many others. However, in a season like the present in many localities the amateur has just as much surplus honey as the extensive bee-keeper, and he has not nearly so much invested in the business; hence, not so much to risk. Of course, in a good season like that of 1903, the amateur is scarcely to be mentioned in the same day with the bee-keeper who has hundreds of colonies, when it comes to quantity of surplus honey. However, we wish all of them success—both the small amateurs and the large specialists.

◆

The West Michigan State Fair is to be held at Grand Rapids, Sept. 10 to 14, inclusive. Mr. A. G. Woodman is the superintendent of the apiarian department, which insures its being a success. The following is the liberal premium-list:

	1st.	2d.	3d.
Nuclei hybrid bees	$ 6	$ 2	$ 1
Nuclei Italian bees	3	2	1
Nuclei of Carniolan bees	3	2	1
Display of 3 different strains of bees	3	2	1
Queen-rearing nuclei, showing frame of queen-cells	5	3	2
Specimens of comb honey—not less than 10 lbs.—quality and manner of putting up for market to be considered	5	3	2
Display of comb honey—appearance, quality and condition for market to govern	25	15	10
Specimens of extracted honey—not less than 10 lbs —quality and manner of putting up for market to be considered	4	3	2
Display of extracted honey—quantity, quality, condition for market and arrangement to govern	20	10	5
Beeswax—specimen not less than 10 pounds	3	2	1
Most attractive display of honey-producing plants, pressed, mounted and named	3	2	1
Largest number of samples of different kinds of honey — each named	2	1	
Largest, best, most interesting and instructive exhibit in the department	15	10	6

The exhibition of all kinds of implements and bee-keepers' supplies is invited, for which space will be provided. Diploma given to best exhibit.

All strains of bees to be bred by exhibitor, and plainly labeled and placed in observatory hives, appearance of hive to be considered.

Entries close Saturday, Sept. 1, 1906.

Nuclei must be exhibited in such shape as to be seen on at least two sides.

All honey to be the product of the exhibitor, and to be product of 1906.

Those desiring further information can address A. G. Woodman, Grand Rapids, Mich.

◆

Hawks and Clover-Blossoms.—We find the following paragraph in one of the magazines under the heading, "Don't Kill the Hawks," taken from Country Life in America:

> Man has sinned more than any other animal in trifling with Nature's balance. Clover crops and the killing of hawks are apparently unrelated, yet the hawks eat the field-mice, the field-mice prey on the immature bees, and the bees fertilize the clover-blossoms. The death of a hawk means an over-increase of field-mice and a consequent destruction of the bees.

◆

Quirin's Queen Advertisement appears on page 707. The testimonials are interesting, being unsolicited.

Contributed Articles

No. 16—Dadant Methods of Honey-Production

BY C. P. DADANT

The editorial on page 593 calls to my mind the question of ventilation in reference to swarming.

Ventilation of the bee-hive is a question on which people differ almost as much as they do on wintering, and for a similar reason—the difference in location. There are countries and localities where ventilation is of much less importance, because of a milder temperature. Between the location of Doolittle and Holtermann, for instance, there is quite a difference, and there is another difference between that of Doolittle and my own. I have read statements from European writers with which I could not at all agree, because they were writing for countries where the thermometer never ranges above 80 degrees Fahr.

If there is a difference between one locality and another, there is also a difference between one summer and another. I will take the liberty of telling some of my experiences to illustrate how great these differences may be.

During the summer of 1877 we had an out-apiary of some 75 colonies 5 miles north of our home. The owner of the farm had left, and his house was occupied by an old man with his wife and 2 or 3 young children. The hives were in an orchard, partly shaded by apple-trees, partly exposed to the sun. At that time we had not begun using any roofs over the hives, neither had we any straw-mats, such as we now use over the combs. During July the bees harvested quite a crop of honey, and the weather became very sultry. One day I received information from the tenant that the bees were in an uproar, which had already lasted for 2 days. I hastened to the apiary and found that the combs had melted down in a number of hives; in some instances only one comb had broken down, but in 6 or 8 cases every comb had been melted by the heat, and when I arrived those colonies were entirely ruined. There were whole rows of hives in which not a colony was safe from this mishap. I valued the loss at over $100. The hives had entrances about 8 inches long, but evidently the heat had compelled the bees to cluster on the outside, and in some cases the cluster had very probably hung partly in front of the ventilating space.

This taught me a lesson which I never forgot. But those bees had gone through the swarming month—June—without suffering from the lack of ventilation, and without much swarming.

After that, for a few years, we fell into the opposite extreme. We formed the habit of lifting the hives from the bottom-board 2 or 3 inches for hot weather. In addition we moved the surplus cases back so as to give a bee-space and an egress at the top of the brood-combs as well as at the bottom. This did very well in hot summers, but we soon found out that in many summers so much ventilation is injurious. In fact, I found hives whose bees were closing the upper ventilation by filling the space with lumps of propolis. This was clear evidence that the bees thought the matter was overdone. When the hives were left too long with this upper ventilation, the bees would remove both the honey and the brood from the upper opening, and a considerable space of the brood-combs was practically abandoned by the bees.

Of late years we have allowed ourselves to be guided entirely by the behavior of the bees. When they are hanging on the outside—"making a beard," as the French say—we conclude that they are uncomfortable, and we at once enlarge the entrance. If the enlargement of the bottom entrance is not sufficient, we make an opening at the top of the brood-chamber by setting the supers back a little, so as to leave an open passage of a quarter inch on the end of the frames. But this remains only while the bees are hanging out and while the harvest continues, for we do not think it worth while to keep this space open after the end of the clover crop, the bees having but little to do and being likely to cluster on the outside, anyhow, if very numerous. In cool summers, when the nights are not unpleasantly hot, we abstain from giving upward ventilation.

A very clear proof that ventilation may be overdone when the nights are comparatively cool, as they have been this summer, is shown in the fact that the bees keep the honey away from the cool spots. We use an enamel cloth and a straw-mat over the combs, and if the enamel cloth happens to have a hole in it this is sufficient to make a very slight amount of ventilation through the mat at that spot. In a cool summer the bees remove their honey from such spots, even though they may be over the center of the brood combs.

That makes it clear to me that they consider even this small amount of ventilation as objectionable, while a lower ventilation does not seem to have any bad effects at all.

The reader will then see that this matter of ventilation is of necessity to be adjusted according to the greater or less heat of the temperature. The ventilation needed in our hot summers in the Mississippi Valley would at all times be superfluous in the mountainous countries like Switzerland, or in mild climates like that of England. The amount of ventilation sufficient in Canada would, on the contrary, be entirely inadequate here.

Now, as to ventilation for the prevention of swarming. It is easily perceived that if we have a hot season at the time of swarming—a condition that will require of the bees their clustering on the outside during a part of the day—the tendency to swarm will be very much increased. On the other hand, we may have very pleasant weather at the same time as a good honey-flow, and without warning our bees may swarm because of want of empty combs, when all the ventilation that could be judiciously given would be of no avail.

The best swarms are cast early in the season, when an ordinary and sufficient flight-opening is all that can be expected among the requirements. I, therefore, think that ventilation in plenty is *not the most important* requirement. But it is *one* of the requirements.

It has been said that an upper opening will prevent swarming. I believe it will, if the amount of room for storing the crop is sufficient. I do not believe that it would of itself prevent swarming, unless this ventilation was carried to such extremes as to make the bees uncomfortable, in which case there might be great danger of having some of the brood chilled.

So I think we may lay down the rule that additional ventilation and shade must be given, as a preventive of swarming whenever the bees show that they are crowded, or are uncomfortable by lying on the outside of the hive. This clustering out is never an evidence that the combs are filled, neither is it an evidence that the hive is full of combs, but only proof that the interior of the hive is unpleasantly warm for its inhabitants; and if we would avoid swarming, we must make their home comfortable.

Hamilton, Ill.

T Supers—Their Construction and Use

BY J. C. ARMSTRONG

I believe I can describe the T super I use by the cut of yours as given on page 642. I don't care whether any other bee-keeper uses it or not, only that if others use it the supply-dealers will keep it in store. Whenever I want a supply of them I have to send a sample to the factory, which costs me 50 cents every time besides the super, which I never get back.

Taking your model: The side from you is 20 inches long, ⅞ inch thick, and 4¼ inches wide. Then it is sunk back ¼ of an inch at each edge. The side next to you is the same width, made out of ½-inch stuff and divided in the middle. The upper half is loose, and is fastened at the end by a button which turns around the corner when put up. The end pieces are 13 inches long and ⅞ thick, and 4⅓ inches wide. It will then be the same as the sides, omitting strips as on the side.

On each end on the inside is nailed a strip ½ inch thick and 4¼ inches wide.

Instead of the supports for the tins as shown in yours, a strip ½ of a bee-space runs the whole length of the super, and is halved into the end pieces, and is ⅞ wide. On the side next to you is another the same. These form the supports for the tins. One side of the end tins slips on top of the inside end pieces, and under the ends of the side strips. The T's are 12½ inches long for 8-frame hives.

These side strips want to be half of a bee-space thick, and when tiered up there will be a bee-space between them. The last lot I got I forgot to give instructions, and they were made a bee-space thick, and when tiered up made two bee-spaces, and the bees will build brace-combs between them. I use 10 tins to a super, 5 below and 5 above. If the cracks between the sections are not covered by tins the bees will glue them up. After filling up with sections and separators, I put a ¼-inch strip and then a wedge strip at the ends to tighten up, and when all is put together you would not know which was the top or bottom except by the buttons. I have one of your kind. The tins are supported by bent wires, but I never used it much. One difficulty I saw in it was in getting these supports in the right place—either too high or too low, or the right distances apart laterally, while in mine the sections are bound to come together regularly. I slip the end tin, then put in the corner section. Slip the next tin up to it, then the next section, then the tin, and so on until filled up.

I think if Elvin Armstrong had not gone out of the business after getting up his hives and super, he would have brought them into use. I don't favor this super because its inventor was an Armstrong, for he is no relative of mine, or if so it is so far back that it doesn't count.

Marshalltown, Iowa.

Dr. Miller, to whom the foregoing was addressed, comments as follows:

I don't fully understand your difficulty in using the T super, but plainly it is from a wrong use of a right thing; and that's probably the case with all who have tried the T super and found it unsatisfactory. You say one difficulty is in getting the supports in the right place; either too high or too low. There is just one place where the supports that hold up the T tins should be, and there ought not to be the slightest difficulty in having them exactly in the right place. I suspect that you have made the mistake of having the supports ¼ inch above the bottom of the super, making a bee-space under the sections. Instead of that the bee-space is at the top of the super. Set a super filled with sections on a table, and the sections should rest down upon the table. That, you will see, makes the supports exactly flush with the bottom of the super. If a square piece of sheet-iron is used as a support, it is nailed flat upon the under edge of the super, so that when the super rests upon a table the support rests flat upon the table. If a bent staple is used, it must also lie flat upon the table, when finished. Possibly there may be a better way, but here's the way I have put in the staples: Lay the super upside down before you, drive the staple down vertically deep enough to have a good hold, putting it about ¼ inch from the inner edge, and then bend the staple over at right angles, and hammer it down so that when the super is turned right side up the staple will rest flat on the table.

As to getting the staple at the right place laterally, there ought to be no difficulty. On each side there are 3 supports. The middle of the middle support comes exactly at the middle of the super, measuring inside. Then half way between the center and the inner end of the super is the right spot for each of the other supports. Nothing difficult about that, surely.

With regard to filling the super with sections, it would be hard to find anything easier. I can put 24 sections in a super in less time than I can set 24 sections on a table. If you set a section on a table, at least a little care must be used or it will topple over. And when you set a second one beside it, there is danger of pushing the first one out of place. In the super no such care is needed. The sections can be almost thrown in. When the first row is put in, a tin is shoved under, when the second row is in, the second T tin is shoved under, and the third T tin after the third row. But, of course, to do this a "super filler" must be used, as described on page 148 of "Forty Years Among the Bees." If any one hasn't the book, and wants to know how to make a super-filler, I'll give the description later.

As I have said before, I have no personal interest in the T super; it is not my invention; but for one who knows how to use it, I don't believe a better super has yet been devised.

Marengo, Ill. C. C. Miller.

Southern
Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Some New Experiences—Some Nuts for the Veterans to Crack

I find with more than 20 years' experience that one will continually be having new experiences with the bees, as we shall see from what follows:

I had a very strong colony of hybrid bees in the home apiary that I had secured from the woods. I had not destroyed their queen and replaced her with an Italian, as is my custom, as her bees were extra-good workers. The season up to about June 10 was very poor for bees. In fact, it was, and is yet, the hardest year I ever saw for bees. But about the above date the mesquite furnished a light honey-flow, and all the bees in the apiary were making a rush for the bloom by the time it was light in the morning.

But this hybrid colony was doing nothing whatever, which was a great surprise to me, as I knew they were about the strongest colony in the yard, and hybrids were usually the best workers. They were just hanging clustered in front of the hive doing nothing. So I decided to give them a good feed that night to start them to work. I prepared it of the best granulated sugar, but to my surprise they refused to take the feed, and allowed it to stay in the hive and sour. This caused me to open the hive and make a careful examination. The old bees seemed to be in perfect health, and were ready to sting on short notice, as was their custom. They had a good supply of stores of both honey and pollen, and plenty of hatching brood, but every cell of the unsealed brood was dead, and the bees had not attempted to remove any of this dead brood, which had apparently just dried up and died. There was no bad smell about the hive or combs, and none of the sealed brood was dead so far as I could discover; the unsealed brood had not turned brown or dark as "foul brood" is said to do when bees are afflicted with that disease. The dead larvæ still looked white, but was settled down in the bottom of the cells, dry and hard, and had died, seemingly, of starvation.

I requeened them with a young Italian queen, and now they have cleaned up their combs and gone to work after a rest of about 10 days, and the light honey-flow they might have taken advantage of has passed. This is a new experience to me, and I should like to have the comments of such men as Dr. C. C. Miller, G. M. Doolittle, L. Stachelhausen, and other bee-experts, on this case, through the columns of the American Bee Journal.

New Experience No. 2.

I removed the queen of a good, strong 3-frame nucleus, leaving eggs and brood in all stages of development with the colony. After 24 hours had elapsed I gave them a ripe queen-cell which hatched in due time. After a few hours the bees commenced "balling" the young queen. I caged her, and she remained in the cage at least 48 hours before the bees released her; but she was promptly destroyed by the bees.

Nothing so very strange about the above, but here is the strange part of it to me: These bees never started a single queen-cell during all this time, and plenty of honey and pollen was coming in from the fields at the time. Now all the brood is capped, and no queen-cells yet, and no laying workers have developed. I left them for the sake of experiment. I had read of cases like the above, but had always supposed it to be some novice writing, and that there was some mistake somewhere.

NEW EXPERIENCE NO. 3.

On June 8, while I was at one of my out-apiaries, a very large swarm issued from a colony I had been feeding heavily for the purpose of securing a lot of choice drones in the home apiary. They made a direct line for the woods without stopping to cluster or look for their queen that had a clipped wing, and could not follow. After the swarm had been gone about 5 minutes my wife went to see if she could find the old mother queen, and found her with a little cluster of bees in front of the hive. Not knowing what else to do with her, she allowed the queen to enter the old hive she came from, supposing the swarm had been joined by a virgin queen from some of the nuclei, as it was the proper time of day (2 p.m.) for them to be flying. So wife returned to the house, thinking the swarm was lost. But about 20 or 30 minutes later she heard a loud roaring down at the bee-yard, and lo, and behold! the swarm had returned and was entering the hive they came from.

On my return I found they had destroyed all queen-cells, and the old queen had gone to laying, and all idea of further swarming was given up.

The two points that are new to me in the above are, 1st, I never had bees go off and stay so long without any queen with them; and, 2d, I never had bees give up the idea of swarming when they had swarmed once, when both honey and pollen were coning in plentifully.
L. B. SMITH.

Rescue, Tex.

Our
Bee-Keeping
Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

A Beedom Neighborhood's Experiences

(Permit me to say, parenthetically, that I usually flatter myself into the belief that every one is my friend, unless I have been positively otherwise convinced.) I suppose a passport to your charming circle is unnecessary since Editor York, and Editress Miss Emma Wilson, have repeatedly sent out invitations to each and all to enter therein.

A rocker? Oh, no, thank you. Cushioned rockers are not for me. A low hassock at the feet of Miss Wilson will admirably answer for the use of one of the most common of common women. A feeling that selfishness is a bar to knowledge and good citizenship, prompts me to bring my humble offerings.

"The soul that gives
Is the soul that lives;
And he that beareth another's load
Doth lighten his own and shortens the way,
And brightens the homeward road."

Because of the world being much the same all over, neighborhood experiences are oftimes of wide interest, so I begin with some of the happenings hereabouts.

REMOVING HONEY FROM HIVES TOO SOON.

About the middle of May, a friend told me that a mutual friend had sent her some comb honey.

The middle of June, in this locality, is *early* for beginning the "robbing," as the operation of taking surplus is termed. I could not help smiling, as I knew *his* was a first experience in the taking of honey. I said little, but thought the more; talk in this instance would have been a simple "casting of pearls before swine," as the mutual friend was very self-confident. I felt satisfied a little later on that old master, Experience, would step in with his exorbitant bill; but I was equally satisfied that in no other way could the lesson be taught.

Surprising that cheap things are discarded because they are cheap, and that we American people are never so well pleased as when we've "paid too dear for the whistle."

After the mischief has been done much after the manner of calling the physician, I was appealed to as to the cause of the trouble and remedy therefor. The honey had not only been taken in an unripe stage, but had also been placed in a damp cellar for "protection." Alas, "misfortune followed fast." An offensive acid smell announced that fermentation had set in; the delicate cappings were broken, and a watery liquid was trickling over the once beautiful white faces of the sections, as though weeping over such untoward destruction. I was forcibly reminded of an article which I had but recently read, and which ran something like this:

> "Two elements are always battling for supremacy; they permeate all things. One builds, the other destroys; one is intelligence, the other ignorance; one is sunlight. the other darkness; one is spiritual, the other animal; one is Dr. Jekyll, the other Mr. Hyde; one is God, the other Devil. The latter seems to be sitting upon the high places of the earth and gaining the mastery of the situation."

A furtive glance from that effervescing mass of honey, to the countenance of the would-be honey-producer, assured me that the agitation in his mind was not excelled by that in the honey, and matters must be run smooth, else an eruption was imminent in which sulphurous fumes were likely to predominate. However, all I could suggest or conjure up was to convert that honey into vinegar. As to the prevention of a similar occurrence, I advised him not to be so over-anxious in assisting the bees, but let them take care of the honey a little longer. Their God-given instinct in the line of curing honey has as yet not been equaled by the tricks of man.

I remember A. I. Root telling of a woman who produced a very superior grade of honey, and, on investigation, it was ascertained that its superiority was wholly due to the fact that the honey was always left on the hives for the bees to perfect its curing. I felt proud of the fact that it was a *sister* that had earned such a reputation, and that there was nothing in the way of other sisters "going and doing likewise."

Quite frequently women are accused of having so much curiosity that they can not let well-enough alone, but must go on a tour of investigation and do more harm than good in a hive of honey-bees. I am pleased to say that in the case under consideration the culprit was a *man*. (By the way, were it possible to weigh the curiosity of both sexes, I wonder which would overbalance?)

Curiosity, however, is a good thing if not abused, as the phrenologists would express it; while it leads us into many a mishap, it also causes us to stumble into success.

The birth of many a bee-keeper was instigated by a spirit of curiosity to ascertain beyond a doubt if he or she could handle bees with that ease, facility and ability that marks the doings of the initiated. And had it not been for the much-ridiculed attribute, "curiosity," these selfsame successful men and women who have remained in the great aggregation of the unknown, and the good they have done to the world to the extent of their bee-keeping, would have been curtailed.

Beginners may have a crumb of comfort in the knowledge that mistakes are not confined to them, as "old stagers" will testify. But a few days ago I was disagreeably surprised by a doleful song which was about as follows:

> "What was the matter with that last 480 pounds of honey sent? Off color and strong. I think you surely must have bought it of some of your neighbors to ship to me. I have built up quite a reputation for shipping in good honey, and please do not send me any more like that. I would sell a can to a man one day and the next he would bring it back, declaring he never saw such stuff, and wanted none of it, etc. Obliged to sell it at a loss."

All this referred to the last shipment of 1905. The honey was of the fall product, and nothing wrong with it except dark. I had given instructions that none of it be shipped, and if not sold at home under personal inspection it was to be kept in stock for spring feeding. Through the carelessness of a driver, who over-looked the lot intended to be shipped, and substituted the dark honey, several innocent people suffered; and just when the cost of this mistake will be fully cancelled it is hard to calculate.

I feel assured that "Experience" will make no exception of this case, but will fully sustain his honestly earned reputation for excessive charges.

Thus, time and again, I am paying for these little lessons, which goes to show that unless one is anxious to become his own executioner in the honey-trade, he must never forget that the price of life is "eternal vigilance."

Miami, Mo. MARY E. NULL.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

More Ontario Honey-Crop Reports

A. Picket, Kilbride, July 23.—I shall not have much white honey save from the basswood, which the bees began to work on a few days ago. I will have only about ⅓ of a crop. I had very strong colonies to begin with, and got a little honey from fruit-bloom, also dandelion, which is very dark and scarcely fit to offer for sale at all.

J. H. McCauley, Churchville, July 20.—I really believe we will not have ¼ of a crop of honey. Basswood is coming out nicely now, but the weather continues too showery and cool.

Alex Goodfellow, Macville, July 23.—Our honey crop is very poor—about 600 pounds of amber and about 700 pounds of white honey; no comb. The white honey has been coming in very slowly.

C. W. Challand, Marburg, July 24.—The honey crop is very short. I have not extracted a pound yet, but I think I will try to take off 100 or 200 pounds for home trade. Buckwheat is not good with me.

Josiah Reaman, Carrville, July 18.—I have taken about 600 pounds of dark honey, which I have not done for some years in the forepart of the season. I have also taken about 100 sections, and they are nice and white, as usual. The linden is in bloom now, but it will not be a full flow, and if it is mixed with the dark honey now on the hives, I will not have as nice honey as last year, and not nearly so much. It rained here the last 2 weeks in June and the first week in July nearly all the time, with thunder-storms at that, and such are not good for a honey crop.

D. Smith, Thedford, July 21.—All kinds of honey are a failure in this section.

W. J. Moore, Rock Spring.—White honey is a failure.

Wallace Smith, Westminster.—Not much of a honey crop.

J. F. Switzer, Orangeville, July 14.—The indications are that the honey crop will be light. I have not extracted any yet.

John Thomas, Arthur, July 14.—This is the best season for clover honey for many years. Basswood also promises well.

A. Fyfe, Harriston, July 14.—I will not have half a crop of honey. I have not extracted any yet. Basswood is just in bloom.

C. Grimoldby, Owen Sound, July 10.—The season so far has been very bad, but it is improving somewhat. I do not expect much of a crop.

H. T. Roberts, McIntyre, July 11.—Our white honey will be a good medium, I think. The flow at present is very good—if it only lasts.

Edwin Dalton, Tansley, July 10.—The clover honey crop here will be very light, but the prospects for basswood are good. My bees have not done well, particularly the last week or so. Adjoining apiaries are complaining of a short honey crop.

John Pirie, Drumquin, July 13.—The honey crop is about a total failure, with a fair amount of clover.

W. Couse, Streetsville, July 9.—We have not 500 pounds of honey from 130 good, strong colonies, and we do not get any dark honey, so our outlook is for bread and butter from some other source.

W. A. Caldwell, Bolton, July 14.—We never have had so poor a honey season. I do not expect over ⅓ of a crop.

R. C. Baillie, Eglinton, July 10.—We do not expect to have more than about ¼ of our usual crop of light honey—about 25 pounds per colony, and all extracted.

Jas. E. Holt, Newton Robinson, July 14.—The prospects at present are very poor for a crop of honey of any description. I have not extracted any yet. Hardly any swarming, and the colonies are not as populous as they should be at this date.

Denis Nolan, Newton Robinson, July 12.—We may get 30 pounds per colony, and we know of no better crop in this vicinity.

Smart Bros., Collingwood, July 13.—There is very little light honey in the supers yet. Clover is about over, and basswood is just coming into bloom.

B. Davidson, Uxbridge, July 10.—White honey here is the same as a failure, and all through this section.

J. W. Sparling, Bowmanville, July 12.—I might say that the honey crop is a total failure here.

John Truck, Port Hope, July 13.—White honey here is almost a total failure. I never saw as light a crop in the 21 years we have kept bees. No swarms with us.

A. H. Noble, Cresswell, July 14.—White honey is a total failure here.

E. G. Hand, Fenelon Falls, July 14.—Clover is good, and promise of basswood.

J. C. Elliott, Carlton Place, July 12.—White clover is almost a total failure here. Basswood promises well; just opening now.

Geo. Laing, Milton, July 17.—Prospects are for a light honey-yield here. I have taken off over 2000 pounds of not very light honey. Bees are doing well now, and getting fine honey, but it being so late in the season it will not last very long.

Alex Dickson, Lancaster, July 17.—The prospect for a honey crop in this section so far is a failure. The spring was too cold. The honey-flow started and stopped, and brood-rearing stopped also, which was the cause of not much doing now.

J. A. Colson, Purbrook, July 17.—The season is late, and the honey crop light.

Geo. A. Howard, Lynden, July 14.—Clover has yielded but very little honey here. The best colonies which did not swarm have about filled one 8-frame super. The weather conditions appear to be about right for nectar-secretion yesterday and to-day, and the bees are storing a little from basswood.

A. Laing, Ash, July 12.—Clover is giving me practically nothing. Basswood is showing fine, and I am hoping for an old-time down-pour from that source, but it is extremely uncertain.

H. R. Rowsome, Burlington, July 13.—There is no white honey here.

Chris. Edmondson, Brantford, July 14.—White honey is a very light crop—not more than 15 or 20 pounds per colony.

J. W. Clark, Cainsville, July 12.—Bees have done very little so far. Unless we get a good flow from basswood the honey crop will be a total failure this season.

QUESTION-BOX

Send Questions either to the office of the American Bee Journal, or DR. C. C. MILLER, Marengo, Ill. (Dr. Miller does *not* answer Questions by mail.)

Tank for Extracted Honey

I want to get a tank for extracted honey. What would you advise me to get—a wooden or galvanized-steel tank? Where could I get such a tank? WISCONSIN.

ANSWER.—Galvanized steel or iron is the material generally used for such a tank. I don't think I ever saw one quoted in a price-list, and you will probably have to get it made by your local tinner. It will be well for you to read the excellent article written by C. P. Dadant, on page 657.

Nucleus Method of Increase

I have a colony of Italian bees from which I intend to make some increase. If I make nuclei from it, will it be safe to give frames of brood with adhering bees from other colonies? Or is there danger that the bees will kill the queen or destroy the queen-cells? If this is not safe, how fast can frames of brood without bees be given? I understand if too much brood is given at once some will starve. IOWA.

ANSWER.—It requires judgment in giving frames of brood with adhering bees, as it depends upon the strength of the nucleus how much can be given at a time. You evidently have in mind the two dangers: One is that the strange bees introduced will kill the queen (there is not very much danger that they will harm the queen-cells); and the other is that the brood will be chilled or starved. Generally more danger of chilling than starving.

Unless a nucleus has bees enough to cover 3 frames, it is better not to introduce a frame of brood with adhering bees, lest the queen be endangered. With regard to brood, there is little danger of harm being done if bees enough go with it to cover it well, or if there are bees enough in the nucleus to cover an additional frame.

In any case, the more mature the brood the better, and if the brood is all sealed you may give a frame without any adhering bees, and it will be safe in a nucleus of 2 or 3 frames, even if there appear to be only enough bees present to cover well the 2 or 3 frames already present. One reason for this is in the fact that it does not require so much heat for sealed as for unsealed brood. As soon as most of the young bees have emerged from the frames given, it can be exchanged for another, and this will generally allow you to add a frame each week.

A nice way to do to have frames of brood ready to give to nuclei is to put an excluder over a strong colony with an empty hive-body over it, and put into this frames of brood from other colonies; then a week or 10 days later, there being no young brood present, the frames will be fine for nuclei, whether you take with them the adhering bees or not.

Bees Trying to Rear a Queen from a Drone-Larva

I have a colony of bees that is rearing, or trying to rear, a queen from a drone-larva, or, rather, from an egg laid by a drone-laying queen. What will the result be?

This colony turned up queenless in the spring. I gave them a comb of brood and eggs in April. They proceeded to rear a queen, and turned out a very nice one, to all appearances; but she disappeared about the time for her to mate. I then gave her another comb of brood and eggs, from which they reared another queen. This was the drone-layer spoken of above. I removed this queen, and, as I supposed, all of her brood and eggs from the hive, and put in another comb of brood and eggs for them to work on.

In about 5 days afterward, on examination, I found I had unknowingly left a small patch of the drone-brood or eggs in the hive when removing the queen, and one large comb. Now, instead, of starting queen-cells on the comb of worker-brood and eggs which I gave them, they commenced on the drone-brood, and have drawn out some fine, large cells which are now capped over and due to hatch inside of a week.

This queen I put in a nucleus, to try to find out if she would deposit worker-eggs later on, but her introduction was not a success. She laid nothing but drone-eggs, to my knowledge. P. S. J.

Answer.—Bees which have nothing but drone-brood are likely to try to rear a queen from a drone-larva, the result being a drone which never emerges, but dies in the cell. But such cells are not likely to be what you would call fine-looking, but rather stubbed, smooth, and incomplete-looking. If the bees started a queen-cell with a drone-egg or a drone-larva while the drone-laying queen was present, there was nothing unusual about the case. But if they started the cell after the worker-brood was given them, and the cell contained a drone-larva, then it was very unusual. Of course, you will watch to see the result, and if there was a drone-larva in the case you may be sure the result will be nothing but a dead drone. If, however, a queen results, then it will appear that the bees have carried an egg from one comb to the other, all the time supposing that the queen-cell was on a comb in which only the drone-laying queen could have deposited an egg.

Reports and Experiences

Plenty of Rain—Fall Flowers

We are having plenty of rain now, and bees are starting on fall flowers. Buckwheat is just opening up; white clover is also popping up here and there. H. G. Quirin.

Bellevue, Ohio, Aug. 9.

Slim Prospects for Late Honey

I have been looking over the surrounding country to see what are the prospects for a late honey crop. It looks slim, but with good rains and favorable weather we might get enough to winter the bees, and perhaps a little surplus. E. J. Bryant.

Elgin, Ill., Aug. 6.

Best Crop of Honey

I have a better crop of honey this year than I have had at any time during the past 8 years. I will have 400 pounds of sweet clover honey, quality the best, from 7 colonies, and no swarms. G. W. Norris.

Claflin, Kans., July 29.

No Surplus for Outside Markets

We had no surplus honey up to July 4. We got about 50 pounds per colony from basswood. We have had a drenching rain of late, and bees are working hard on sweet clover now. There will be no surplus honey here for outside markets this year.

Davis, Ill., Aug. 7. J. W. Johnson.

Bees Have Done Well

I am very much interested in bees, and also in reading the American Bee Journal. My bees have done very well this summer, one colony producing 4 supers of honey containing 28 sections each, and one 10-frame shallow super, and are still working. It didn't swarm at all. John L. Sims.

Williamstown, Mich., Aug. 4.

Poor Season in Florida

Last year bees were an absolute failure here, and I fed 12,000 pounds of sugar syrup to keep them from starving. This year was fairly promising, but the excessive and continuous rains have caused it to be almost a failure. I have about 5 pounds per colony on the average in surplus honey. Bees 200 miles further south have done much better. The flow came before the rains. Also, in western Florida, where the source is entirely different, there was honey. Here many colonies did not give an ounce, the very strongest a few pounds—mostly extracted. A. F. Brown.

Bulow, Fla., Aug. 3.

Protracted Drouth—No Noney

In this locality white clover begins to yield nectar the last week in May. This season we have had a protracted drouth, and the bees have gathered but little nectar since the last week in May, which has necessitated feeding.

Sweet clover makes but very little start in this locality; for some reason it fails to flourish. I learn that in the vicinity of Aurora bees are getting some surplus from sweet clover.

In northern Illinois "pigeon" and "foxtail" grasses flourish; in this locality these grasses are rare; late fall warmth germinates most of the seed, which gets killed before it can mature more.

The Dadants have an exceptional locality for this vicinity, being on the Mississippi River. Wm. Findlay.

Basco, Ill., July 30.

Queen-Clipping Device Free!

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One New** subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
CHICAGO, ILL.

QUEENS

BY RETURN MAIL

Golden or Leather-Colored Italian

A few unsolicited testimonials showing what Quirin's queens are doing:

Our folks say that your queens are extra-fine.
The A. I. Root Co., Medina, Ohio.

We have good reports from your stock from time to time. George W. York & Co., Chicago, Ill.

On every hand I hear good words of Quirin's queens. B. S. K. Bennett, Los Angeles, Calif.

Your queens did finely. It was one I purchased last year that gave me over 600 pounds of honey.
J. L. Gandy, Humboldt, Nebr.

The breeder is surely a very fine one; her daughters do grandly.
Campbell & West, Hartstown, Pa.

I had a queen of you last year which produced bees that beat anything ever seen in this part of the country. E. L. Messenger, New Haven, Conn.

The nuclei you sent J. A. Adams did just spendidly. Each colony stored at least 75 pounds of honey.
F. P. Merritt, 13 Breckenridge St., Lexington, Ky.

A few years ago I bought a queen from you which proved to be the best I had for years.
H. C. Shirley,
Cashier of Liberty Bank, Liberty, S. C.

I have had the pleasure of seeing the results of your queens at Mr. George W. Stanley's apiary, at Scuffletown, Ky., and that is why I am ordering this half dozen. C. W. Brenner, Newburg, Ind.

I bought a queen from a neighbor last year who said he got her from you. She made for me 193 sections of honey after July 4—the best my other queens did was 64 sections.
C. E. Woodington, St. Anne, Ill.

With great respect I write to you in regard to your dealing and queens. If you want any references you can refer to me, as I can't recommend you too highly. Your queens are the best I ever saw. I have one hive of bees among my 45 colonies containing a queen from you that $50 will not buy.
Morris Coon, Route 2, Locke, N. Y.

Prices balance of season	1	6	12
Select queens	75	$4 00	$7 00
Tested queens	1 00	5 00	9 00
Select tested queens	1 50	8 00	15 00
Breeders	3 00	15 00	
Straight 5 band breeders	5 00		

Safe delivery and satisfaction guaranteed of all queens. Any queen not satisfactory may be returned any time inside of sixty days and another will be sent gratis.

Address all orders to

Quirin-the-Queen-Breeder
BELLEVUE, OHIO

This ad appears every two weeks.

Mention Bee Journal when writing.

Rose Lawn Queens

"Beauty is Skin Deep" Results Count

A customer in Pennsylvania writes: "The Pure Gold queen you sent me has 9 frames full of sealed brood. I would not take $100 for her. Send me another like her."

From an Indiana bee-keeper: "I have handled queens for 20 years, but the Golden you sent me is the largest, finest and most prolific I ever saw. Please send me 3 more as soon as possible."

From Illinois: "I never saw bees work Red Clover until to-day when I counted more than 20 on Red Clover blooms in my yard. They came from the hive containing the Red Clover Queen bought of you."

Plenty of these queens for you. Get good stock. A request will bring cage containing sample workers of any race we have.

Requeen now and have plenty of early brood next spring.

Italians and Carniolans—Untested, 75c; 6 for $4. Tested, $1; 6 for $5.

Caucasians and Banats—Untested, $1; 6 for $5. Tested, $1.50; 6 for $8.

ROSE LAWN APIARIES,
33A4t STA. C. LINCOLN, NEB.

Mention Bee Journal when writing.

Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8.00	$ .95	$ 5.00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9 50	1.20	6.00	10.00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18 50	2.20	11.00	19.00

Straight 5-band Golden Breeders	$10.00
Select Golden Breeders	3.00
" 3-band "	3.00
" Carniolan "	3.10
" Caucasian "	3.25

1-frame Nucleus (no queen)	$1.50
2-frame " "	2.00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive	6.00

Bees by the pound in light shipping-boxes, $1.00 per pound.

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

Mention Bee Journal when writing.

Queen Incubator and Brooder—Twin Nucleus-Box

MAINLY FOR QUEEN-BREEDERS

INCUBATOR AND BROODER allow the bees access to the cells and queens at all times. (Patented July 7, 1903.) Price, $5.00.

TWIN NUCLEUS AND MATING BOX has control of the queen by a 3-hole wheel on the outside, with one hole wire-screened, one hole covered with queen-excluding zinc, and the third hole to regulate the size of the entrance. (Patent applied for.) Price, $1.00.

CYLINDER CAGES, postpaid, each, 10 cents. QUEEN-CELLS, 100 mounted, with sample of Cylinder Cage (sent postpaid,) for 75 cents.

BREEDING QUEENS, after May 1st—Italian, Imported and Golden Italian, and Carniolan—$2.50 each. Orders booked now and filled in rotation. Send for free Circulars. 7Dtf **ARTHUR STANLEY, Dixon, Lee Co., Ill.**

Mention Bee Journal when writing.

Seeds of Honey-Plants

Seven heads Turnips, Motherwort, Catnip at 5c per package, postpaid; 24-lb. Shipping Cases complete with glass, 14c each.

H. S. DUBY, the Bee-Man, St. Anne, Ill.

26A13t Please mention the Bee Journal.

Low Rate Excursion to New York

On August 28th and 29th, the Nickel Plate Road will sell tickets to New York City and return, at rate of one fare plus $2.00, from Chicago. Return limit, September 4th, leaving New York City. For detailed information, call on or address, John Y. Calahan, General Agent, 107 Adams St., Chicago.

21—32A3t

CONVENTION NOTICE.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

"It is continuous advertising that impresses the public with the stability of a firm."

200 Standard-Bred Italian Honey-Queens

BY RETURN MAIL

We can mail **AT ONCE** 200 of our fine **Standard-Bred Untested Italian Honey-Queens** at these special prices:

1 for 70c; 3 for $2.00; 6 for $3.75; 12 for $7.00.

Or, 1 Queen with the Weekly American Bee Journal for 1 year—both for $1.40. Or, we will send one **Free** as a **Premium** to any subscriber (whose own subscription is paid up at least to the end of 1906), for sending us $1.00 and the name and address of a **NEW** subscriber for one year.

Here is an unsolicited testimonial taken from many similar ones:

> GEORGE W. YORK & Co.—The Queen received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line. E. E. McCOLM.
> Marion Co., Ill., July 13, 1905.

Better order at once if you want some of our fine Queens. Address,

GEORGE W. YORK & CO., 334 Dearborn St., CHICAGO, ILL.

Italian Queens

Red Clover and 5-banded strains. Untested Queens, 75c; Select Untested, $1.00; Tested, $1.50; Select Tested, $2.50.

H. M. PARKER, JR.
30Atf JAMES ISLAND, S. C.

Mention Bee Journal when writing.

Yellow From Tip to Tip

My Adel Queens and Bees are exceedingly handsome. Non-swarmers and practically non-stingers. Hustlers for honey; in fact, are regular Red Clover Bees. Each queen, $1. Catalog ready. **HENRY ALLEY**
30A6t WENHAM, MASS.

Choice Queens

Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans — Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906.

CHAS. KOEPPEN,
26A13t FREDERICKSBURG, VA.

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Bee-Keepers

If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to

20Atf **A. COPPIN, Wenona, Ill.**

BINGHAM 'Original Direct Draft CLEAN Bee Smokers

4 Largest Sizes Soot Burning

Never Go Out

And last from 5 to 21 years

Pat'd 1878, '82, '93 & 1903

Tin 4-in. Smoke Engine 3½-inch 3-inch 2½-inch 2-inch Wonder

$1.50. $1.10. $1.00. 90c. 65c—per mail.

Sent on receipt of price per mail.

T. F. BINGHAM Farwell, Mich.

OTISVILLE, PA., Jan. 18, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

Mention Bee Journal when writing.

Meet W. J. Bryan

in New York City, upon his return from Europe, and take advantage of the low rate excursion over the Nickel Plate Road, from Chicago, August 28th and 29th. Tickets good returning leaving New York City September 4th. Chicago depot, La Salle St. Station. Information furnished upon application to John Y. Calahan, General Agent, 107 Adams St., Chicago.

22—32A3t

BEE-SUPPLIES

We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

LOWEST PRICES

and our excellent freight facilities enable us to make prompt shipments over 15 different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the

Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS now.** Write to-day. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.
T. B. Vallette & Son, Salina, Kan.

Catalogs issued in English or German.

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Just Received a LARGE CONSIGNMENT OF

Second-Hand 60-lb. CANS

— Two in a Case. —

The cans are just as good as new, and we are offering them for quick sale at the following prices:

In lots of 5 cases of 2 in a case....50c a case
" 10 " 2 " ....45c "
In lots of 25 cases of 2 in a case....40c a case
" 50 " 2 " ....35c "
In lots of 100 cases of 2 in a case............32c a case

GRIGGS BROTHERS, 521 Monroe St., Toledo, Ohio

25A6t **Mention Bee Journal when writing.**

Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of **SUPPLIES.** Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
17A26t 138 N. Pleasant St., NORWALK, OHIO

Mention Bee Journal when writing.

Red Clover Queens

J. P. MOORE STRAIN

Mated to choice drones Select Untested, $1.00; six, $5.00.

WALTER M. PARRISH,
30A5t LAWRENCE, KAN.

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BEE-KEEPERS

Send for our 1906 Free Illustrated Catalog. Good Goods, Low Prices and Prompt Shipments are what you get if you send your orders to—

PAGE & LYON MFG. CO.
New London, Wis.

Italian and Caucasian

BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen.....	$ .65
" Tested Queen.......	.90
" Select Tested Queen	1.10
" Breeding Queen.....	1.65
1-comb nucleus (no queen)	.80
2 " " "	1.40
3 " " "	2.00
1 Un. Caucasian Queen,	1.25
1 Tested " "	1.75

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

J. L. STRONG
16Atf 204 E. Logan St., Clarinda, Iowa.

Italian and Caucasian Queens

A special discount is offered on all Queens and Bees ordered to be delivered before the close of the season of 1906. Pure stock, pure mating, and **excellence in grade** guaranteed. Address,

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R. F. D.

Mention Bee Journal when writing.

Queens Now Ready to Mail

None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

GRANT ANDERSON,
20Atf SABINAL, TEXAS.

Fine Italian Queens

Mrs. O. E. Gibson, Brant, Mich., says:
"Queens arrived O.K. Much pleased with them."
Untested, 50c; Tested, $1.00.

J. F. MICHAEL
29Dtf Rt. 1. WINCHESTER, IND.

Moore's Long-Tongues and Golden Queens

Select Untested, 75c; 6 for $4; 12 for $7.50. Tested, $1.25; 6 for $6; 12 for $11. Best Breeders, $2.50. Safe arrival guaranteed,

W. H. RAILS, Orange, Calif.
29D6t Please mention the Bee Journal.

DOOLITTLE & CLARK

WILL SEND QUEENS

BY RETURN MAIL

the remainder of the season at the following prices:

Untested..............	$ 1.00	$2.50	$ 9.00
Select Tested.........	1.50	4.00	14.00
Tested (1905 rearing)....	2.50		
Select Breeding.........	5.00		
Extra Select Breeding...	10.00		

NOW IS THE TIME TO REQUEEN.

Borodino, Onon. Co., New York
17Dtf Please mention the Bee Journal.

Queens Italian Queens

Golden and Leather-Colored

One Untested Queen, 50c; 6 for $2.75. One Tested Queen, 75c; 6 for $4.00. Safe arrival guaranteed.

JOHN LEININGER
R.F.D. No. 4, FT. JENNINGS, OHIO.
29Dtf Please mention the Bee Journal.

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Every thing used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
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Honey and Beeswax

CHICAGO, Aug. 6.—There is now offered some good lots of comb honey, and while the trade in it is not active, it is taken at 15@16c for fancy. 14@15c for No. 1, 12@13c for fancy amber, and 8@10c for fancy dark. Extracted is slow of sale with prices according to quantity and quality. White extracted, 6½@7½c; amber, 5½@6½c; dark, 5@5½c. Beeswax, 30c.
R. A. BURNETT & CO.

TOLEDO, July 30.—The market on comb honey at this writing is rather unsettled, as dealers are waiting to see what the market is going to do. There has not been very much honey offered as yet and bee-keepers seem to be holding their crop for a larger price. Fancy white comb would bring here in a retail way 14@15c; some extra lots, 15½c; No. 1, 14c, with very little demand for lower grades. Extracted white clover in barrels would bring 6@5½c; cans the same. Beeswax 26@28c.
GRIGGS BROS.

INDIANAPOLIS, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, Aug. 9.—Advices from different points are rather conflicting in regard to the honey crop this season, and, consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, July 10.—We still have some demand for comb honey, mostly for white grades, which sells at from 13@14c, according to quality. A very limited demand for light amber, with sufficient supply, and prices ruling at about 12c. Extracted in fairly good demand, with sufficient supply to meet all requirements. Quite some arrivals from the South, and common grades are selling at from 50@58c per gallon, and better grades at from 60@65c per gallon. California strong, and white is selling at from 7@7½c, and light amber at from 6@6½c. No near-by honey in the markets as yet. Beeswax steady at 30c per pound.
HILDRETH & SEGELKEN

CINCINNATI, Aug. 3—Comb honey finds ready sale here for fancy and No. 1 at 14@15c per pound in a jobbing way. This is a poor market for grades lower than No. 1. The receipts of extracted honey are normal, although the demand is not so good as it was 60 days ago. Nevertheless, there is no material change in prices. Selling amber in barrels and cans at 5@6¼c; fancy white at 6¼@8½c. For choice beeswax, free from dirt, 30c per pound, delivered here. THE FRED W. MUTH CO.

DENVER, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, Aug. 9.—On account of the heavy receipts of all kinds of fruit, the demand for honey, both comb and extracted, is very limited. We are quoting No. 1 fancy white in 24 sections at $3: No. 2, at $2.75. There is no new extracted in market; old stock is selling at 5½@6c. Beeswax, 25c. C. C. CLEMONS & CO.

CINCINNATI, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¼c. Beeswax, 30c.
C. H. W. WEBER.

Wanted

To sell lot of 300 empty 60-lb. capacity Honey-Cans. All in one lot, or less quantities. Cans are in first-class condition.

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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., AUG. 23, 1906 No. 34

Apiary of W. S. Williams, of Martha Furnace, Pa.
(See page 718)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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on the market to-day. Covers and bottoms are of **One Piece**. Everything is **Polished** on both sides, and a better case cannot be had at any price.

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PROMPT SHIPMENTS

At this season of the year Supplies are wanted without delay. The crop is being harvested and must be put up for market. Shipping-cases and honey-packages of all kinds are in demand. We are in position to fill your orders with the greatest promptness. With full stocks at all branch houses and agents everywhere fully stocked, your order has best possible attention. Look over list below and find the branch or agent from whom you can obtain Root's Goods quickest and at the least transportation charges.

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Five-Gallon Square Cans

This is the favorite package for shipping extracted honey. There can be no shrinkage and consequent leakage, no taint to the honey as is often the case with wooden packages. The cans being square, economize space and are easily boxed.

As we have an overstock of cans for honey we make the following special prices on cans from Medina, to reduce stock. If ordered from any of our branches or agencies east of the Missouri River, add 5c a box or 50c per 100 cans to cover freight to those points.

No. in a box	Capacity of each Can In gallons	In honey		Price of 1 box	10 boxes	Weight of 1 box
1	5-gallon can boxed	60	pounds	$ 50	$ 4 50	10 lbs.
2	5 gallon "	60	"	75	7 00	15 lbs.
10	1-gallon "	12	"	1 25	12 00	20 lbs.
12	½-gallon "	 6	"	1 25	12 00	20 lbs.
24	¼-gallon "	 3	"	1 75	16 50	25 lbs.
100	1-gallon "	12	"	10 00	95 00	110 lbs.
100	½-gallon "	 6	"	8 00	75 00	80 lbs.
100	¼-gallon "	 3	"	6 00	55 00	60 lbs.

In lots of 50 boxes or over we will furnish the 60-lb. cans, two in a case, at 65c a box.

Half-pound Tumblers

These are to supply the increasing demand for a cheap jar for holding one-half pound honey and retailing for 10c. We can supply these tumblers at $4 a barrel holding 24 dozen. For less than a barrel we will repack for 25c per dozen, or put them up 4 dozen in a case ready to be reshipped when filled at $1 per case; 10-case lots at 95c. At present these are in stock only at Medina.

No. 25 Glass Jar

This is a very neat, clear glass jar holding 1 pound of honey We have sold this jar for years and in larger quantities than any other. Put up in reshipping cases of 2 dozen each. Prices same as the Simplex Jar.

Simplex Jar

The handsomest glass package on the market. Your honey in this package will find a place among the finest novelties on the grocery shelves. Create a demand for your honey by packing in the best possible manner.

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Address branch nearest you.

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AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

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GEORGE W. YORK, Editor   CHICAGO, ILL., AUGUST 23, 1906   Vol. XLVI—No. 34

Editorial Notes and Comments

Honey-Producer Improving His Stock

It is pretty safe to say that *any* attention given toward improvement of stock will be better than the present course of the majority of honey-producers. Possibly that is too severe an arraignment; let us say, then, the present course of *many* bee-keepers, which is to let their bees go on year after year with no thought given to selection or the introduction of fresh blood.

Two courses are advised: One is to breed always from the best, the other is to buy from time to time a queen of pure blood from which to breed.

When it is advised that each bee-keeper shall make his own selection, and breed from those queens whose colonies give best yields, the reply is made: "Yes, that looks plausible; but a first cross is likely to give fine results in honey, and when the attempt is made to breed from such first cross, no reliance can be placed upon results, for stock reared from it will be of the most widely varying character. The only way is to buy a queen of the best quality from a reliable queen-breeder, and rear young queens from her. That will give you a fixed type, and you may count on the perpetuation of the qualities of the mother."

But the very persons who insist so strenuously upon breeding from pure blood will in the next breath tell you what a fine thing is a cross between this and that variety of bees, and urge the advisability of fixing the type. And what is fixing the type but persistently breeding in the direction of desired qualities? And why can the honey-producer not do that as well as the queen-breeder?

Let us assume, however, that the best thing is to breed from nothing but pure blood; it remains still true that it is better to breed from the best than from the poorest. So it is safe to say to the beginner—indeed, to any one—breed from the best you have, paying equal attention to drones as to queens, and introduce constantly fresh blood just so long as you can buy a queen of better stock than that already in your possession.

◆

Bees Mixing When Taken from Cellar

It is not an uncommon thing, when bees are taken out of the cellar in spring, in the joyous excitement of their flight, to have some hives almost depopulated and others doubled or trebled in numbers. In a few cases disaster has been reported. How to avoid this has been a problem. E. W. Alexander reported in Gleanings that he had practised taking bees out at night, and believed that was the secret of success.

Editor Hutchinson, of the Review, tried this plan, and his graphic account of it makes interesting reading, albeit rather trying on one's sympathies. He says:

> The bees were carried out of the cellar in the night, the hives placed in rows, but quite a distance apart. The next day was not very warm, but the bees flew some. I watched them from the window, but there was no "drifting" or mixing up. I had been sick, and was not very strong, but just at dark I bundled up and managed to go from hive to hive and lift the covers. All were clean and healthy, clustered nicely, and about the same number of bees in each hive. The next day was warm, and for awhile the air was fairly black with bees over the hives. Along about noon they seemed to be gathering at one corner of the yard. The fronts of the hives in that part of the apiary became black with bees, and finally the sides and tops of the hives were covered with bees. Every bee that left a hive seemed in duty bound to join the whirling "circus" of bees at that particular part of the apiary. Only a few bees could be seen flying at other parts of the yard. When night came, and I went out again and lifted the covers, I found mere handfuls of bees in some of the hives—bees between only 2 or 3 combs. Twenty or 30 of the hives at the corner where the bees had congregated were jammed full of bees—some were filled to overflowing.
>
> I had read, and been told, that if bees were put out in the night, the start for a flight would be started gradually, and there would be none of this mixing or drifting. There was this time. Always before I have carried the bees out in the daytime, on a warm day, scattering the hives as carried out, and had no trouble with their mixing. There is only one precaution that I neglected, and it is possible that it might have saved this trouble, and that is, I didn't contract the entrances. If the entrance is contracted so that only 1 or 2 bees can pass, a strong colony can make no more of a demonstration than a weak one. But I had heard so many times that carrying the bees out in the night would do away with this difficulty that I pinned my faith to it.

Dr. Miller reports that he has always taken his bees out in the daytime, as early as possible in the day, and with large entrances has had some mixing, but never much. Of late, immediately after being taken out, entrances have been closed down to a hole ¾ to 1 inch square, and no mixing whatever has been observed.

◆

Libelous Statements and Insinuations

We sometimes wonder what certain of our bee-keeping exchanges hope to gain by publishing libelous insinuations against other bee-papers. If they know of any real wrong-doing on the part of other bee-papers, why don't they specify it? One would naturally expect that a paper backed by a manufacturing business would be a little careful how it speaks of those that are not so supported. But, of course, it does not require unusual intelligence to see through the sham claims to co-operative helpfulness of some "house-organs" when they begin to throw mud and make libelous insinuations against honorable and genuinely independent papers.

We know the American Bee Journal has been considered unfair in not publishing certain convention resolutions that had mainly a local bearing, and also contained advertising matter that properly belonged in the advertising columns. We believe in "a square deal" all around, and especially with our responsible advertisers who pay their money for advertising space. So we don't propose t publish a lot of free advertising for interested parties, and in the reading columns. Those desiring to do any business with our readers have the advertising columns open to them—provided they are honest, and mean to do business "on the square." Any other kind can't get into our columns at any price—not if we know it.

Any statement, or even insinuation, that the American Bee Journal has agreed with any other bee-paper or bee-papers in any course whatsoever against the interests of honey-producers, is utterly false and libelous, as any one who knows us and reads the American Bee Journal carefully must also know.

Some of these days the selfishness and evident egotism back of the libelous insinuations and charges referred to will be apparent to all. Time discloses a good many things, and some of them mighty queer. But *new* bee-keepers can afford to wait and see which of the bee-papers are their real friends. The *older* bee-keepers don't have to wait, for they know already. The American Bee Journal does not claim to be "the whole thing" in bee-literature, but it does claim to be entirely independent of any bee-supply business, is not influenced by any other bee-paper or bee-papers, and works for the best interests of its subscribers. The mere statement of these facts will be sufficient for all who have read the American Bee Journal any reasonable length of time, and who have not become influenced by malicious insinuations or utterances.

How beautifully independent, and how unbiased in its judgment, must a bee-paper be that advocates co-operation because its bee-supply manufacturing publishers are to get most of the co-operative business! Oh, consistency, thou art truly a jewel of the first-water, while such an inconsistent bee-paper is—well, our readers know what it is without our naming it.

Miscellaneous News-Items

An Interstate Fair is to be held at Sioux City, Iowa, Sept. 10 to 15, 1906. Iowa, Minnesota, South Dakota and Nebraska will be represented. A bee and honey exhibit will be a part of the Fair. On Thursday and Friday, Sept. 13 and 14, will be held a bee-keepers' convention in the afternoon and evening of each day. R. A. Morgan, of Vermilion, S. Dak., has been appointed superintendent of the apiarian department, and invites all bee-keepers to be present with their exhibits. Every bee-keeper contemplating a display at this Fair will confer a favor upon Mr. Morgan by writing him on or before Sept. 1, giving size of exhibit or amount of space required. The 4 splendid States to be represented ought to produce an apiarian display second only to the one at the World's Fair in Chicago, in 1893.

* * *

Poisoned by a Pollen-Tipped Bee-Sting!—With the remark, "How is this for a California tale? Out here we know very little about bees," G. F. Merriam sends the following clipping:

> LONG BEACH, July 17.—Inoculated with the poison of a flower by the sting of a bee, is the unique experience of Miss Fremont, daughter of the late Gen. Fremont, and she is recovering after suffering intensely for some hours.
>
> Miss Fremont, who resides on Juniper street, was gardening among her flowers when the insect stung her hand, which suddenly swelled to extraordinary size. A surgeon extracted the tiny shaft and discovered that its tip had been poisoned by the pollen of a flower.
>
> A peculiar feature of the case is a distinct black line running from the wound to the chest over the heart.

After reading the foregoing, one is left gasping with desire for further information. So many questions arise that might easily be solved by the man who had the ingenuity to find out that a sting became venomous when poisoned by pollen. Did the sting become swollen when poisoned by the pollen? What kind of flower was the pollen from? Did that "distinct black line running from the wound to the chest over the heart" stop "running" when the "surgeou extracted the tiny shaft?" Was the brain of the reporter affected by the poison, or was it the poison from rye? Perhaps that "surgeon" had "a leetle too much" himself.

* * *

Directions for Introducing Queens are always sent with each queen mailed. The instructions are printed on the under side of the address card tacked on the queen-cage. The following we take from a card received with a queen recently at this office:

> DIRECTIONS FOR INTRODUCING.
>
> Before giving this queen to the colony be sure it is queenless. A colony that has been without a queen from 12 to 16 days—long enough so that there is possibly one or more virgins in the hive—will not as a rule accept an introduced queen. The colony should not be queenless more than 5 days, and to secure the best results 1 or 2 days are better. See that all queen-cells that may have been started are destroyed. To introduce with this cage, pry off the cover, note the condition of the queen; pull out the cork in the end, and place the cage on top of or between two frames. Through the holes in the end the bees will eat out the candy left in the cage, and release the queen in from 1 to 2 days. If the bees release her quietly themselves it will be better than if you try to help the matter along. If the weather is cold set the cage right over where the cluster of bees is. Should the queen and her attendants arrive feeble, or daubed up, release her at once among the bees. If, after they clean her off they ball her, return her to the cage and introduce as explained. If she arrives dead, notify us and we will replace. If your bees are or have been robbing, you may not succeed in introducing.
>
> *N. B.—Queens just from the mails usually look small and dark. After laying a few days they will improve.*

It is seldom safe to remove or destroy the old queen of a colony to be requeened, *before* receiving the expected queen. The new queen *may not* arrive as promptly as anticipated.

It is hardly necessary that the colony should be queenless any time at all before introducing the new queen. Simply remove the old queen when the new one has arrived, and at once *begin* to introduce her as per the directions given.

The question is often asked as to how long the new queen can be kept with the bees in the cage she arrives in before introducing her. We have known instances where such keeping of the queen for 2 weeks did not do any harm.

* * *

The Apiary of W. S. Williams appears in the front-page picture this week. He wrote as follows on July 26:

> I am located in the Bald Eagle Valley, midway from Tyrone to Bellefonte. I have kept bees for 30 years, but never have had more than a dozen colonies at one time, nor did I pay much attention to them until a year ago, when I concluded to test what could be done with them in honey-production, and I have succeeded beyond my expectations. I now have 50 colonies. I have introduced the Italians this season, and have now 11 queens on the way.
>
> I am represented in the front of the picture, and my baby boy past 3 years old stands by my side holding a bee-smoker. He is around the bees very much, and gets stung occasionally, but doesn't make much fuss about it. My wife and granddaughter are shown at my left.
>
> I think the honey season this year is the best I ever saw. This morning I took 3 supers from one black colony of bees that had 76 completed sections. Many of the other colonies are doing equally well. I expect to build up to at least 100 colonies by the coming season, if spared to do so.
>
> W. S. WILLIAMS.

* * *

THE EDITOR'S SONG

How dear to our heart is the steady subscriber,
Who pays in advance, without skipping a year;
Who lays down his dollar, and offers it gladly,
And casts 'round the office a halo of cheer.
Who never says: "Stop it; I can not afford it!"
Or: "Getting more papers each day than I read;"
But always says: "Send it, the whole outfit likes it—
In fact, we regard it as a business need."
How welcome is he when he steps in our office,
How he makes "our heart" throb; how he makes "our eye" dance!
We outwardly thank him—we inwardly bless him—
The steady subscriber who pays in advance!
—American Printer.

There is always "room for more" of the "steady subscriber" kind. But all kinds of subscribers are appreciated at the office of the American Bee Journal. And yet "the steady subscriber who pays in advance without skipping a year"—well, we'd like to have a few thousands more of him—and her.

Contributed Articles

Does the Queen Determine the Sex of Eggs?

BY "WEST VIRGINIA"

Does the queen-bee have control over the kind of egg she deposits in the cell?

The reason I ask this question is this: Early last spring I asked these questions, "What determines the kind and sex of bees? Does the size and shape of the cell in which the bee is reared have anything to do with the kind and sex of the bee? or is it the food on which the larva is fed that determines the sex and kind of bee, as the eggs that bring forth the three kinds of bees are all laid by the one queen?" I received two answers, as follows:

1st. The sex of the bee depends upon whether the egg is fertilized or not. An unfertilized egg produces a drone; a fertilized egg a queen or worker. An unfertilized egg in a worker-cell can produce only a drone; a fertilized egg in a drone-cell can produce only a worker or a queen. Under normal conditions only unfertilized eggs are found in drone-cells, and fertilized eggs in worker and queen cells. The egg that produces a queen is precisely the same as one which produces a worker, only the cell is enlarged and the bees feed it through its larval existence the richer food that is given to the worker-larva during its first 3 days.

2d. In our opinion it does not, since there are two distinct kinds of eggs laid by queens which are, namely, the male and female. The female eggs may be made to produce either workers or queens, according as the larvæ from these eggs are fed the ordinary food or royal jelly. The size of the cell also has something to do with the more perfect development of the queen. Drone-eggs, however, if transferred to queen-cells, can not be made to produce queens, for the experiment has been tried. The instance which you describe probably may be accounted for in this way: That is, it is thought that bees sometimes transfer larvæ, and if that is the case, the drone-larva might have been removed and replaced by a worker-larva, or it might have been that this worker-larva existed already in one of the cells near the patch of drone-brood.

Now I will give the reason why I asked the questions. I had been reading Bulletin No. 55, and on page 9, under "Natural Queen-Rearing," I found if any female larva is taken and so placed that this special food is given it the resulting bee is a queen. This called to my mind my experience of a few years ago with a colony of bees that I was very anxious to have good and strong by the time the honey-flow came on. They did not seem to have many bees working, so I opened up the hive and found plenty of bees and a good supply of honey on hand, lots of young brood coming on, and as there was room for another frame in the hive, I put in an empty frame of comb in the middle of the brood-nest, and in a few days I examined them again and found the empty comb had been all cleaned nicely and every cell seemed to have an egg in it, and on one side of the comb there was a bunch of drone-cells about as large as my hand in which the queen had also deposited eggs. In a few days I examined it again, and on this same frame I found quite a number of queen-cells in good shape. As I held it in my hand I found one of the queen-cells was built right over the drone-cells. While examining it this thought came to my mind: Now here are eggs deposited by the same queen in different cells, one kind will bring forth workers, one kind drones, and the others queens. Now do the size and shape of the cell have anything to do with the kind and sex of the bee? This particular queen-cell being built over the drone-cells set me to thinking, that if the worker-bees had not changed the form and size of the cell it would only have brought forth a drone-bee, and the same of the queen-cell—if it had not been changed it would only have brought forth a worker, no matter how much royal jelly had been fed it. That was what I thought at the time.

In the same Bulletin, under "Artificial Queen-Rearing," I find the first step to be taken is to get the proper size and shape of the cell, then the transferring of the egg or larva to the proper size and shape cell to bring forth a queen. And now I am still at a loss, for in the first answer you will observe that he says that the sex of the bee depends upon whether the egg is *fertilized* or not. An unfertilized egg produces a drone, and a fertilized egg a worker or queen. In Ans. 2 you will see that he says that in our opinion it does not, since there are two kinds of eggs laid by queens, which are, namely, the male and female. The female eggs may be made to produce either workers or queens, according as the larva from these eggs are fed, and the male eggs produce the drones.

In "Modern Queen-Rearing" I find this question, "How many kinds of eggs does a queen lay?" The answer is, "Two—fertilized and unfertilized, or worker and drone." Now, if the queen does actually lay two distinct kinds of eggs, they will necessarily have to be deposited in the proper kinds of cells; that is, the worker-eggs will have to be deposited in worker-cells, and the male eggs in the drone-cells, for nothing but a drone will hatch out of a drone-cell, and only a worker come out of a worker-cell, or a queen out of a queen-cell.

My experience this season with a golden Italian queen from which I wanted to rear quite a lot of drones, caused me to bring this matter up again. When her young bees began to hatch I could not find any drones, and upon close examination I could not find a single drone-cell, so I put 2 frames that had quite a lot of drone-cells, in the middle of the brood-nest, and in a short time I had plenty of drones coming on. I am of the opinion if I had not furnished her with the proper cells for her to deposit the eggs in, I would not have had any drones from her; and, further, I am of the opinion that the queen has to be properly mated before any of her eggs will hatch; when that is done, then when she deposits the egg in the worker-cell it will bring forth a worker, or if in a drone-cell it will bring forth a drone, or if in a queen-cell it will bring forth a queen, as the case may be.

I am somewhat of a Doubting Thomas about an unfertilized egg bringing forth anything, as it is contrary to all rules.

I have given my reasons for asking the questions, and will be very glad to hear from any one who has had a similar experience, or who can give any light along this line, as I get more practical information from the questions asked and answered in the bee-papers than from any place else.

Since writing the above I find this from the pen of one of the most prominent bee-men in this country: "Our knowledge of bees is really very limited. Little is known concerning the parthenogenetic development of drones and the determination of the sex; practically nothing of the finer structures of bees, and very little concerning the principle of breeding."

Foul Brood vs. Black Brood

BY C. P. DADANT

I was rather startled, last winter, when Dr. E. F. Phillips, in Charge of Apiculture in the Bureau of Entomology at Washington, stated at the meeting of the National Bee-Keepers' Association that the disease now known as "black brood" contains the Bacillus alvei, and is, therefore, the foul brood of Europe, as described by Cheshire and Cheyne, while the bacteriologists of the United States Government have been unable to find any Bacillus alvei in the disease now known as foul brood throughout the United States. (Page 129 of the annual report of the National Bee-Keepers' Association for 1905, also pages 667 and 668 of the American Bee Journal for Aug. 2.) To ascertain the facts more positively, I wrote a letter of enquiry to Dr. Phillips Feb. 17, asking him about this matter. Here is a part of his answer:

> "In every specimen of black brood, which has been examined, Bacillus alvei has been found, so that it seems evident that this is the disease which was described by Cheshire and

> Cheyne, in 1885, in the Journal of the Royal Microscopical Society. The disease which is commonly known as foul brood in this country would appear to be something different, and since the Chicago convention we have succeeded in finding a germ in foul brood which has not been yet described, and which has been called Bacterium 'X' by Dr. G. F. White, of Cornell University. Our work has not gone far enough to enable us to say definitely that this is the true cause of the disease, but it has every appearance of being. As soon as the season opens, the work will be taken up again and pushed as hard as possible."

In a subsequent letter, dated July 25, and in reply to some questions from me in regard to the diagnosis of the disease, Dr. Phillips replies:

> "Black brood, or 'New York Bee-Disease,' is not ropy, or at least very slightly. It does not have the 'glue-pot smell,' but an odor is sometimes noticeable. It attacks larvæ earlier than old-fashioned foul brood, and while still uncapped they become yellow, chocolate-colored, and finally black. The scale of the dead larva is not so adhesive. There can be no doubt but the two diseases are distinct."

Upon receipt of this letter I began investigations of authorities on the subject, and at the same time wrote a letter of enquiry to Mr. Edouard Bertrand, the former editor of the Revue Internationale D'Apiculture. Mr. Bertrand has much authority on the subject, having had foul brood in his apiary which he eradicated, and having cured, by the Hilbert treatment, 37 colonies in one apiary. Very few persons can secure such a result without at least destroying a part of their colonies. Mr. Bertrand and Mr. Cowan together have seen, through the microscope, the Bacillus alvei produced by these colonies (Conduite du Rucher, page 58). In addition to his personal experience, Mr. Bertrand has made a special study of foul brood, and has translated into the French the work of F. C. Harrison, of Ontario, on foul brood. He, therefore, has both the theoretical and practical knowledge.

Mr. Bertrand makes the following reply, which I translate for the benefit of the reader:

> "Dr. Phillips is undoubtedly mistaken. Our foul brood has the 'ropiness,' the viscidity, as a characteristic sign. I wrote in my 'Conduite du Rucher:' 'The rotten matter is viscous; it strings when you draw it out with a needle.' It is this stringing disposition which enables us to determine whether it is foul brood. Cowan, in his treatise, says, 'The cells contain a coffee-colored, putrid, viscous, ropy mass.' F. C. Harrison, in a pamphlet which I have translated, describes on page 11, the ropy, stringing character of the decomposing larvæ. He has studied foul brood in Canada and in Switzerland, at Berne."

Referring to Cheshire, the man who gave foul brood its name of "Bacillus alvei" (owing to the particular bacillus that he found in it), we find the following description; we must accept Cheshire as authority on the matter, if we accept his name and description of the bacillus:

> "'The larvæ so change in appearance soon after infection that a practical eye at once detects the presence of the pest. Whilst healthy, their bodies are of a beautiful pearly whiteness, and their skins are tense with fulness; but where the disease strikes a larva it moves uneasily in its cell, often presenting its dorsal surface......The color now changes to yellow or the faintest buff, distinguishable immediately in a healthy brood-patch, which is, normally, perfectly even in tone. The color strengthens to a pale brown, whilst the skin becomes flaccid and opaque, death soon occurs, when the body, shrunken by evaporation, lies on the lower side of the cell, becoming progressively darker, until it almost assumes *the color of coffee;* dessication continuing, in a few days nothing more than a flattish black scale remains. In an injected colony, these can be seen in number by looking over the comb, having its upper edge towards the face of the observer. Should the larva escape contamination until near the period of pupahood, it is sealed over in the normal way. The cover furnishes a screen, on which part of the cocoon is soon after spread; but the inhabitant of the cell is marked out for death, and before very long the capping or sealing sinks, becoming concave, and in it punctures of an irregular character appear, which is nearly a conclusive sign of the diseased condition of the colony. The sense of smell is also appealed to as a peculiar, foul and extemely characteristic odor now escapes from the diseased combs. This is difficult to describe, but it reminds me of *offensive glue;* while it is not unlike that from guano. The odor is not always present in equal intensity ......Should any attempt be made at removing a dead larva which has assumed the coffee-colored stage, the remains, tenaciously adhering to the cell-wall, will *stretch out into long and thin strings*, somewhat like half-dried glue." (Bees and Bee-Keeping, pages 538 and 539, F. R. Cheshire, 1888.)

I am not in the habit of making long quotations, and the reader will pardon this, owing to the importance of the subject, since Cheshire was the discoverer and first describer of Bacillus alvei as the cause of foul brood. The italics in the quotation are mine. I underlined these passages solely because they give the three most indubitable proofs of the existence of the disease, other symptoms being also noticeable in minor diseases. For instance, the sunken cappings and yellowish larvæ are also found in pickled brood. But the ropiness, the coffee-color and the glue-pot smell combined are, from all authorities, clear evidences of foul brood.

I do not doubt the assertion made by the bacteriologists of the United States through Dr. Phillips, that Bacillus alvei is found in black brood, but I question whether they are correct in stating that it does not exist in the ordinary United States foul brood. Neither do I make this statement just for the purpose of fault-finding. All I desire to do is to gather together the facts concerning the disease on both continents, in order that our scientists may have their attention called to what can not be denied, *i. e.*, that the disease ordinarily called foul brood answers exactly the description given of it by the leading scientists of Europe. A few months of careful and protracted investigation will undoubtedly bring light from this chaos, and I know it will be welcomed by all those who take an interest in the matter. Further discoveries may explain to us why it is that some apiarists declare that the disease can only be eradicated by depriving the bees of all their honey and brood, while others are equally strenuous in asserting that the removal of the queen until after all the brood is hatched, and the inserting of a new queen at that time, effectually stops the disease. According to Cheshire, the disease is not in the honey, while according to our most successful foul brood inspectors, the disease is carried mainly through the honey. Let us have more light.

Allow me to add a few words to this already too long article, to say that another evidence of the ropy, stringy condition of foul brood is very apparent in its French name, "la loque." I have already made mention of this somewhere. The French word "loque" has two distinct meanings, the principal meaning being "rags, tatters." A Frenchman will say, Ses vetements tombent en loques—His clothes fall in tatters. It seems very apparent to me that this name "loque" was given to foul brood by the very fact that they noticed the stringy condition of the dead brood, which can never be removed whole, but comes out in "tatters" whenever you attempt to draw it out of a cell.

Hamilton, Ill.

Canadian Beedom

Conducted by **Morley Pettit**, Villa Nova, Ont.

Bee-Paralysis Again

In reference to bee-paralysis, mentioned on page 598, we have this further letter from Mr. Smith!

Mr. Morley Pettit:—I delayed answering your letter regarding bee-paralysis, as I wished to see the results of treatment. The colony which was sick when I wrote you, and that I had treated with sulphur, has entirely recovered. In fact, I have noticed no dead bees since that time. The trouble, however, have since developed in about 20 more colonies to a greater or less degree, some colonies appearing to be very much worse than others. I treated them with salt, but can report no improvement.

A peculiar point in the disease is, the sick bees all try to get together after crawling from their hives. There is a small ditch running across the ends of two rows of hives, and for a space of about 2 feet in the ditch is a seething mass of dying and dead bees.

Another peculiar feature is, the drones are affected much worse than the workers. After dropping off the alighting-board they roll on their backs and die very quickly, while the workers crawl around a great deal.

I have had 7 swarms from as many diseased colonies, and the swarms do not show the trouble, and I think the old colonies do not seem quite so bad; but there are still too many sick bees coming from those hives.

I am led to believe that sulphur is the surest cure.

There is one thing which makes me doubtful about the trouble being paralysis. All the literature I can find on the subject says that it will disappear with the good honey-flow, but in my case the thing increased with the honey-flow.

The first colony affected also seemed different from the rest, in that the bees crawled very slowly and seemed to have lost the power of their hind legs; but the bees of the other colonies seem to be in a great hurry, and apparently have no trouble with their legs. Their wings stick up just the same, however, and their bodies are black and shiny. I may report again if anything new develops.

Palermo, Ont., July 2. H. A. SMITH.

P. S —I may be mistaken, but I will give my opinion on the cause of this trouble. The bees were packed very warm and snug against the honey-house last winter. They had a great many flights during the latter part of the winter, and fearing they would mark their locations I put them on the summer stands on a very cool and cloudy day. We had about 3 weeks of hard weather after that, and I believe the brood suffered, and has developed in the matured bees in this way.

H. A. S.

Mr. Smith's explanation is not "orthodox," and there is probably nothing in it. I would be pleased to have the opinion and experience of others. I am glad to be able to publish the following valuable letter from Mr. Philbrook, who has had a wide experience with this malady:

SULPHUR TREATMENT A SUCCESS.

MR. MORLEY PETTIT:—On page 598, I notice you request experience with bee-paralysis, and I refer you to my quite extensive experience and remedy published in the American Bee Journal, page 664, 1905, as follows:

"I reasoned that the disease was a microbe or germ disease, and it must enter the hive at the entrance......I reasoned that the diseased bees being the adult ones, by covering the entrance boards with the sulphur (Poppleton's remedy), and throwing it well back into the hive, the adult bees would come very much in contact with it in trying to keep it up [out?], as the disease seemed to attack them on the tongue, and thence enter their bodies. So I treated every colony in the apiary to a dose of sulphur, by throwing it well into the hive-entrance in the evening when all bees were in. At first the results scared me, for the quantities of dead bees increased......but there were scarcely any dead bees carried out the next morning; and after 4 days I treated the entire yard to another dose of sulphur, and very few dead bees appeared. My yard was free from disease......It appeared later in the season, but I promptly dosed with sulphur, when it vanished once more, and I have seen no further signs of it."

And I would further say, I have seen this work as perfectly in two instances since then, but neither with the same apiary. I consider sulphur a perfect remedy and complete cure for this malady. Where used below the brood it is perfectly harmless. But it should never be used on worker-brood, nor on drone-brood above worker-brood, as it will sprinkle down over the worker-brood and ruin it, and make the combs unfit for the queen to use for a long time afterwards. But fear nothing from its use on the bottom-board. Throw it in at the entrance with great force, and drive it well back on the bottom-board; repeat in 4 days, and then again in 6 days, and it is done, and no harm to the colony. I hope this may help your correspondent.

H. S. PHILBROOK.

Oxnard, Calif., July 24.

Our
Bee-Keeping
Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

"Bee-Keeping a Specialty"

Under this heading a very interesting article appears in Poultry Husbandry, written by Miss F. E. Wheeler, the sister who has won distinction by her successful labors with ducks and other two-winged members of the animal creation, as well as with the smaller four-winged navigators of the air with which the readers of the American Bee Journal are so familiar.

After saying that one who makes a business of poultry-raising can not follow the happy-go-lucky plans of one who has only a few fowls, Miss Wheeler says:

> The same may be said of bee-keeping. It is a specialty and has a science of its own. There is no feature of rural life that has absorbed the attention of so large and intellectual a class of men for so many years.
>
> Our greatest writers have made the bee a subject of much study and research, and have used their knowledge of its ways to point many a warning and a moral to humanity.
>
> Among the multitude of references to bees and their habits that Shakespeare has, here is one that seems specially applicable to us who are under the stress of battle, making a good fight for our independence:
>
> "Let come what will, I mean to bear it out,
> And either live with glorious victory
> Or die with fame, renowned for chivalry.
> He is not worthy of the honey-comb
> That shuns the hives because the bees have
> stings."

Among so much that is good, it would not be strange to find one or two things that some of the sisters of experience might question. Here is one paragraph:

> "EMERGENCY CELLS" IN REARING QUEENS
>
> It has been pretty well tested and proved that "emergency cells" do not, as a rule, produce so good queens as those built in a leisurely way by the bees, say during swarming, when they have plenty of time to shape them in fine style. So, for best results, we must either procure our queens from a reliable party, or by our own selection and manipulation produce them from our own colonies.

Emergency cells are generally understood to be those reared by bees, which have been made queenless, from larvæ in worker-cells, as distinguished from swarming-cells or supersedure-cells, in which the bees of their own initiative have started with the egg in a previously constructed queen-cell. The mention of cells "built in a leisurely way" probably has reference to the tradition still somewhat in vogue that when bees are made queenless they are in such haste to supply the deficiency that they select for the production of their future queen a larva of such advanced age that the result is something that is not "every inch a queen," but having to some degree the characteristics of a worker. Like many another error, this libel upon the intelligence of our pets dies hard.

It does not require a scientist to prove the falsity of the tradition; any one of the sisters is equal to the task. It is known that during the first 3 days of the life of a larva in a worker-cell the feeding is the same as that of a larva in a queen-cell. Then the worker-larva is "weaned," as it is called, and fed on coarser food, while the more costly food is continued to the royal larva throughout its entire feeding period as a larva. The doctrine of the tradition is that when the bees are suddenly made queenless they are in such haste to rear a queen, and so lacking in good judgment, that the candidate for future royalty is chosen from among the larvæ that are "weaned," or more than 3 days old.

The requisite proceeding in the case is very simple, costing little trouble to the operator, and little hindrance to the work of the bees. All that is necessary is to remove the queen of a colony with 2 or 3 frames of brood and adhering bees, putting the same in a nucleus, and then a day or so later to look and see the size of the larvæ in the queen-cells that are started, when the queen can be returned. It will be found that not only are the chosen larvæ not over 3 days old, but that they are considerably under. From that it would appear that the bees seem to know that although a 3-days-old larva may not be weaned, it is not as good for their purpose as something younger.

Heather Not a Mint

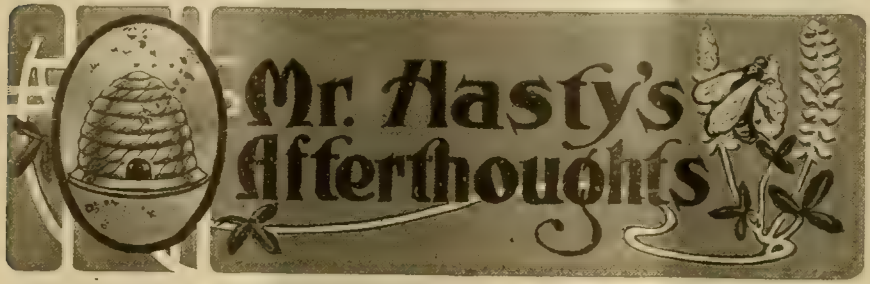
In the article on "Mints as Honey-Plants," by Prof. Cook (page 530), he classes "the famous heather of Scotland as one of the mints." That is a mistake, and leads me to infer that Prof. Cook has not seen heather.

I have gathered heather in its native habitat—on the moors of "Bonnie Scotland," and I have pressed specimens now in my possession. I was not a botanist then, nor am I much of one now, yet enough to be able to consult "Gray's Manual of Botany" for what he has to say of the "Heath family."

"Ericaceæ (Heath family) is a large one, very various in many of the characters." Throughout the whole family the flowers are "regular, or nearly so." The Azalea, the Rhododendron, and the Rhodora, are members of the Heath family; so also is the Whortleberry.

Heather itself is "an evergreen under-shrub." It is very difficult to keep our impressions—the ideas we form—separate from *facts*, but it is especially important that a teacher do so. I think Prof. Cook will be glad of the correction. What we write in the American Bee Journal is, as it were, "all in the family." [MRS.] A. L. AMOS.

Comstock, Nebr.



Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

EMPTY COMBS AS ANTI-SWARM PROTECTORS.

Exactly how much it's worth I don't know. Providing it was sound and true, always, it might be handy. Stachelhausen thinks there is a limit to the anti-swarm protection afforded by empty comb. It is an axiom that abundant clean, empty comb, nicely adjacent the brood-nest, will usually prevent the bees from thinking about swarming. He thinks that with 2500 square inches of brood, or more, they will swarm anyhow. This may strike some readers as a sly joke. It would take 11 frames fuller than usual to amount to that much. If bees swarm mainly of discontent because the younger class are carrying lots of prepared larval food which can not be used anywhere, then the rule suggested seems improbable. Hard to see how sealed brood could have any *direct* bearing in the matter; and unsealed brood, if there was enough of it, should have a direct bearing the other way—prevent swarming altogether by furnishing a market for all the food. Page 533.

3-STORY HIVES AND QUEEN'S LAYING.

A matter mentioned by Mr. Ferris, page 537, will bear some more thinking over. Bees occupying 3 stories incline to half abandon the lower one. Sometimes they put considerable pollen in it and not much of anything else. That's not the way the keeper wishes things to proceed. Even if he is willing the queen should go above he decidedly wants the main headquarters of the brood-nest to remain below. With ordinary 2-story hives and excluder I think the queen usually *tries* to get above. Occasionally she succeeds. In this case do we ever find, at the close of the season, the lower story normally well-filled with honey? Strikes me we never do—and in this connection I fear that there has been some waste somehow of what the colony might have accomplished. We can prevent the queen from moving the brood apartment upstairs. I wish we were further able to keep her from *wanting* to do it. Why should she? Possibly a bit jealous that so many bees should be busy with work she has no direct connection with, and in rooms where she can not go. But that hardly covers the difficulty with 3-story hives and no excluders. And, perhaps also, it's mostly the bees rather than the queen that move the nest—don't like much space *above it*.

DRONES AND SWARMING—CAGED QUEENS.

So Mr. Hatch thinks bees never swarm unless there are some drones present. Neither will they unless there is some *air* present. Neither will they unless there is some of Uncle Sam's jurisdiction present. (Say King Edwards, ye who live across the border.)

But when Mr. Hatch tells about his experience with caged queens we do well to listen. To cage awhile and then release is one grand gum-game to head off swarming. He finds that even in a great cage, on two caged frames, she sulks while a prisoner, and is superseded soon after she gets out. His grand conclusion is that swarming is effect and indication of vigor, and that pretty much everything repressive of it depresses vigor and so does harm. This is a big doctrine if not big truth; and better we don't play wayside hearer to it. Page 537.

MANY FACTORS IN THE SWARMING IMPULSE.

'Spects Mr. Aspinwall also enunciates a big truth when he says: "A great many factors enter into and constitute the swarming impulse." His experiments—on 40 colonies for 10 years—can not be called petty nor desultory. The most singular thing is that he should find it necessary to use ¾-inch spacers between sections. This is just half the width he uses between brood-combs. Even with the spacers he puts on 72 sections at once. We must allow some margin for an inventor's enthusiasm, but Mr. Aspinwall's assertion that his hive does succeed in keeping bees free from the swarming impulse in a swarmy season should count for something. Whether it will succeed in other places needs demonstrating—and also whether other men will succeed in "walking the rope" as well as the expert. Page 538.

IDEAL PLAN FOR LOCATING OUT-APIARIES.

Mr. Townsend's ideal of an out-apiary business seems to be 3 yards as near home as may be, and 3 yards more far enough away to get into totally different pasturage—say clover for main crop in one region, and raspberry for main crop in the other. Looks wise. In a year when one region has a short crop a different region has a fair chance of harvesting a good crop. If you can get at a region where buckwheat is largely cultivated, and *yields well*, then almost anything else will do to alternate with that. Sad to relate, buckwheat is a rather poor stick to lean on in most places. Page 540.

CONTRARINESS AND OBSTINACY OF BEES.

Not sure I can solve the problem given by Lewis on page 542. I rather guess there was nothing the matter either with the bees or the manipulation. They just took a notion to be contrary and stuck to it to the end. Obstinacy is one of the bee's strong points. Their killing of the queen and bees in the nucleus certainly seems a very extreme case.

LANGSTROTH FRAME VS. BRITISH STANDARD.

No doubt the British standard frame is a good frame; but I think the Langstroth (3⅝ inches longer, and ⅝ deeper) is somewhat better for America in which it flourishes. Page 553.

QUESTION-BOX

Send Questions either to the office of the American Bee Journal, or DR. C. C. MILLER, Marengo, Ill. (Dr. Miller does *not* answer Questions by mail.)

Strange Noise from a Colony of Bees

I heard a very strange thing to-day in our apiary here. We noticed in working among the hives that there was a noise which came from one of our hives which sounded very much like the low, soft noise a hen makes over a brood of chickens in the evening. It was quite strong and came out at intervals in the morning. It did not seem possible that the bees or a queen could create this, and we opened the hive, but were unable to find the source. It may be that this is a common occurrence, but it is something new on us. We thought possibly that the noise came from the locality of the hive, and was not from the interior, but we could find nothing exterior that would or could cause it. I will thank you if you would give me your ideas on this, just to gratify my curiosity.

WISCONSIN.

ANSWER.—I can't tell what made the noise. The loudest noise made by a single bee is that made by a queen; and you are probably sufficiently acquainted with the piping and quahking of a queen not to mistake it for some other sound. Of course, bees unitedly make sounds louder than that made by a queen, as the roaring of a swarm, and the roar that can be heard several rods from the apiary after a hard day's work in a heavy flow. But, as you describe it, if made by any part of a colony it must have been by a single bee. It would rather look as if the noise came from something else than the bees. And yet, if you were rather close to the hive when the sound was made, and especially if the noise was made after you had been having the hive open and had closed it, it may have been made by a bee that was caught fast. At any rate, I have at times heard a worker make a noise much as you describe—a sort of chuckling sound rapidly repeated, utterly different from the noise made by a queen, and I *think* a bee is always caught fast when it makes that sound.

Trouble from Bee-Moth—Feeding and Italianizing

1. I am "up against it" already. I bought 3 colonies of bees of a neighbor, and put them in new dovetailed hives. They were large colonies. I moved them ¾ of a mile in the evening after they were hived. I brought the last one home July 7. The bees came through in poor shape here, and were late in swarming. I noticed 5 days ago about 20 young bees on the alighting-board, and the old bees were tugging them away. I had a bee-man, who claims to know a great deal about bees, look at them, and he said there were more young bees than the old ones could feed, and they were killing them off. He found 3 moth-worms in the hive, and about 3 or 3½ quarts of bees. The 8 frames were about half full of comb, and that about ¼ brood and 1-10 honey—no sealed honey. I took the cover off to-day, and found a moth-worm on the end of the frame. I was afraid it would set them back to smoke them, and they were a little cross. I find about the same number of young, dead bees every morning. We have had lots of white clover and a good honey-flow ever since I got them, unless it is just at present. The clover is about gone, but buckwheat is coming on now. I have 5 colonies now.

2. I understand that you do not advise a greenhorn to feed, and yet it is very important. I want to learn, and am willing to listen to you. I would like to learn how to feed bees, and get them in shape for the honey-flow.

3. I would like to requeen a colony or so with Italians. Could I not put an Italian queen in a hive, keep swarming down as much as possible, and by requeening every year or so keep them pure? When is the best time to requeen? and where is a good and cheap place to get queens?

I want to try to learn to get my money out of the bees. I am willing to work with these 5 colonies, and don't expect to go any deeper until I make a success with them.

PENNSYLVANIA.

ANSWERS.—1. From what you say it is quite possible that the bee-moth is responsible for the whole trouble. When the larvæ of the bee-moth spin their webs through the combs, young bees nearly or altogether ready to emerge from their cells are injured by these larvæ or their webs sufficiently to make the older bees cast them out. The best thing to do is to get in a good strain of Italian blood, and they will keep the moth at bay. No better time in the year than now to get an Italian queen, and then you will have an established colony of Italian stock next year from which you can Italianize the rest. A weak colony of common bees is likely to give up to the worms, but a very small number of Italians will clean them out.

2. In the limitations of this department it is not always easy to avoid misunderstanding. It is true that I have advised a novice against feeding; and it is true that I have advised feeding in the strongest terms. One of the worst things you can do is to leave your bees short of stores in the spring, and I never have advised against feeding when such a thing occurs. I feel well satisfied to feed a colony in spring if it needs food, but I feel better satisfied if every colony is so heavy with stores that it needs no feeding in the spring. From now on is the best time to feed; not in spring. See that there is so much honey in the hive that there will be no possible need of feeding in the spring. I know of no better advice to give you, and if you will follow it you will be all right. The kind of feeding I advise against is feeding a little each day in bad weather in spring. But I never advise against feeding to have a good supply on hand.

3. As already said, there is no better time than now to get one or more Italian queens, and by following the instructions that accompany the queens you will stand a chance of being successful, although there are likely to be some failures in the matter of introduction. As to the best place to get queens, I must refer you to the advertising columns of this Journal. You are exactly right in your idea of introducing Italian blood every year or two, so long as there is any black blood in your neighborhood. But remember that merely having a colony of pure Italians in your apiary is not enough. You must take pains to see that most or all of your colonies are headed with queens of the right sort. When you've done the best you can in that direction there is still chance enough for black blood from black drones of your neighbors within a mile or two. Any advice you desire toward helping you will be cheerfully given in this department.

Reports and Experiences

Buying or Rearing Queens

In the first place, do you want to buy your queens or rear them yourself? Watch for the opening of the honey-flow; that is, the flowers that yield the honey. Be sure they yield honey. If they do not yield, you will have to feed while you work my plan on your own rearing of queens. You will want a hive exactly the same size as the one you want your queens from, which is, of course, the best for honey. Then take the empty hive, have frames with full sheets of foundation wired and embedded. You will need a 7 or an 8 frame hive; then lift the hive that has the colony that you want to rear from; put the new hive on the same stand and in the same place; hunt the queen out, and on whatever frame of brood you find her put that frame with the queen in the center of the new hive; put a queen-excluding honey-board on top of the new hive; place the old hive with the 7 frames on top of the new hive; close any flight-hole that may be in the top hive, and in about 8 days you will have a lot of queen-cells sealed.

Then take each frame out separately, find the best cell on each frame, cut all the rest, and put the longest and thickest one in a new hive, with a frame with comb in it. If you have no comb, use full sheets of foundation, and put a division-board or dummy on the side of the foundation; then as soon as the queens have mated, or say before they have mated, that is about 3 days after hatching, treat hive No. 2 the same as No. 1. Just hunt the queen out, stand the frame to one side, take out a comb, shake the bees off, and put one in each of the 1-frame nuclei; put frames with full sheets of foundation, as stated in treating No. 1, but you put No. 1 on top.

This is a good way to make increase, as you can go all over the same in about 3 or 4 weeks. You must also see that the colonies are always supplied with frames and foundation as fast as needed; also, they must never get scarce of feed.

If you buy your queens from some breeder you can save a lot of valuable time and put the colonies away for winter in better shape, and in a fair honey-flow you are likely to get a nice surplus, to boot.

This is only for beginners who need increase. Those who have a lot of colonies would better only increase to 4 or 5 from every 2 colonies. JULIUS HAPPEL.

Evansville, Ind., July 31.

Bees Carrying Water at Night—Worker Reared in Queen-Cell

An Arkansas bee-keeper wrote some time ago about night-working bees, and that he would rear his queens from that particular colony. Several years ago, if I mistake not, it was claimed that bees, like decent girls, stay at home at night. Mr. Root, however, makes fun of the reports of night-working bees, by saying that possibly such a man's bees were crossed with lightning-bugs! I sleep only 10 feet from my nearest colony of bees, and I hear them on every hot night going after water. I have known bees to go more than 100 feet any night, moonlight or starlight, after water, provided there are no corners to be turned, or they are not wedged or hedged about by any kind of undergrowth. Probably this explains why so little is known in some places about bees working at night.

One curious thing about water-carrying by night is, that only one bee, and no more, leaves at a time; but the very second she sets her foot on the alighting-board with water, off goes another bee for more. No time is wasted. While on the wing, these water-carrying bees utter that peculiar hissing sound, though not nearly as high as when they are ready for an attack.

Several bees followed me 100 yards every moonlight night last May clear to my house, when it was necessary to feed a few nuclei, provided I stood at the hive a minute or two. If, however, I dropped a piece of comb honey (unsealed, of course) and left at once, no bees would follow me around.

Some time last March a neighbor came after me to separate some nice 5-banded Italian virgin queens which were kept from swarming on account of cool weather. In cutting out sealed queen-cells, all of which contained large yellow virgin queens ready to emerge, I noticed one cell at least 2 inches long. In cutting it open, out came a perfect worker-bee. I caged her promptly, carried her home and clipped her wings, so I could not be deceived, and introduced her in a glass hive. She remained a perfect worker. The usual amount of dried-up jelly was missing in this worker-bee's cell. The septum was intact, so no wax-worm deprived this particular inmate of her proper amount of queen-food.

Fort White, Fla. D. J. PAWLETTA.

Rose Lawn Queens

"Beauty is Skin Deep" Results Count

A customer in Pennsylvania writes: "The Pure Gold queen you sent me has 9 frames full of sealed brood. I would not take $100 for her. Send me another like her."

From an Indiana bee-keeper: "I have handled queens for 20 years, but the Golden you sent me is the largest, finest and most prolific I ever saw. Please send me 3 more as soon as possible."

From Illinois: "I never saw bees work Red Clover until to-day when I counted more than 20 on Red Clover blooms in my yard. They came from the hive containing the Red Clover Queen bought of you."

Plenty of these queens for you. Get good stock. A request will bring cage containing sample workers of any race we have.

Requeen now and have plenty of early brood next spring.

Italians and Carniolans—Untested, 75c; 6 for $4. Tested, $1; 6 for $5.

Caucasians and Banats—Untested, $1; 6 for $5. Tested, $1.50; 6 for $8.

ROSE LAWN APIARIES,
33A4t STA. C. LINCOLN, NEB.

Italian Queens

Red Clover and 5-banded strains. Untested Queens, 75c; Select Untested, $1.00; Tested, $1.50; Select Tested, $2.50.

H. M. PARKER, JR.
30Atf JAMES ISLAND, S. C.
Mention Bee Journal when writing.

Yellow From Tip to Tip

My Adel Queens and Bees are exceedingly handsome. Non-swarmers and practically non-stingers. Hustlers for honey; in fact, are regular Red Clover Bees. Each queen, $1. Catalog ready. **HENRY ALLEY**
30A6t WENHAM, MASS.

Choice Queens

Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans—Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906,

CHAS. KOEPPEN,
26A13t FREDERICKSBURG, VA.
Mention Bee Journal when writing.

Bee-Keepers

If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to
20Atf **A. COPPIN, Wenona, Ill.**

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Original
Direct Draft
CLEAN
Bee Smokers

Pat'd 1878, '82, '93 & 1908

4 Largest Sizes Soot Burning
Never Go Out
And last from 5 to 21 years

Tin 4-in. Smoke Engine 3½-inch 3-inch 2½-inch 2-inch Wonder
$1.50. $1.10. $1.00. 90c. 65c—per mail.
Sent on receipt of price per mail.
T. F. BINGHAM Farwell, Mich.

OTISVILLE, PA., Jan. 18, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

Mention Bee Journal when writing.

Meet W. J. Bryan

in New York City, upon his return from Europe, and take advantage of the low rate excursion over the Nickel Plate Road, from Chicago, August 28th and 29th. Tickets good returning leaving New York City September 4th. Chicago depot, La Salle St. Station. Information furnished upon application to John Y. Calahan, General Agent, 107 Adams St., Chicago.
22—32A3t

CONVENTION NOTICE.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.
Flint, Mich. W. Z. HUTCHINSON, Sec.

Missouri.—The annual meeting of the Missouri State Bee-Keepers' Association will be held at the Circuit Court Room at Marshall, Mo., Oct. 2 and 3, 1906. All bee-keepers are invited to attend and to join the Association. This is going to be an important meeting, as steps in preparing for the canvass of the State in the interest of the foul-brood bill to be brought before our Legislature at its session next January are to be considered. Elaborate preparations are being made by the Saline County Bee-Keepers' Club for the reception of bee-keepers, and badges are being prepared, and will be sent to all those applying for them to the undersigned Secretary, or to Mr. M. E. Tribble, at Marshall, Mo.; Secretary of the Saline County Bee-Keepers' Club, to facilitate the reception committee in taking care of the bee-keepers on arrival of the trains. Hotel accommodations can be obtained at reasonable rates, or board and lodging can be secured at 50 or 75 cents per day at private boarding houses, for those who will write to Mr. Tribble, asking him to arrange for them. There are over 41,000 bee-keepers in Missouri. Let there be 1000 of them at Marshall, Oct. 2 and 3.
ROBERT A. HOLEKAMP, *Sec.*
4263 Virginia St., St. Louis, Mo.

Seeds of Honey-Plants

Seven heads Turnips, Motherwort, Catnip at 5c per package, postpaid; 24-lb. Shipping Cases complete with glass, 14c each.
H. S. DUBY, the Bee-Man, St. Anne, Ill.
26A13t **Please mention the Bee Journal.**

"It is continuous advertising that impresses the public with the stability of a firm."

100 Standard-Bred Italian Honey-Queens

BY RETURN MAIL

We can mail **AT ONCE** 200 of our fine **Standard-Bred Untested Italian Honey-Queens** at these special prices:

1 for 70c; 3 for $2.00; 6 for $3.75; 12 for $7.00.

Or, 1 Queen with the Weekly American Bee Journal for 1 year—both for $1.40. Or, we will send one **Free as a Premium** to any subscriber (whose own subscription is paid up at least to the end of 1906), for sending us $1.00 and the name and address of a **NEW** subscriber for one year.

Here is an unsolicited testimonial taken from many similar ones:

GEORGE W. YORK & Co.—The Queen received of you a few days ago came through O.K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee-keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line. E. E. McCOLM.
Marion Co., Ill., July 13, 1905.

Better order at once if you want some of our fine Queens. Address,

GEORGE W. YORK & CO., 334 Dearborn St., CHICAGO, ILL.

The Frisco is the Line

To take to the Bee-Keepers' Convention. First-class equipment all the way. Through service from Chicago to San Antonio with exception of change at St. Louis. You run through the beautiful Ozarks over this scenic line to the Southwest. The convention is held at San Antonio in November; the weather is delightful; it is just the time to see this great section at its best.

For additional information write!

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LOWEST PRICES

and our excellent freight facilities enable us to make prompt shipments over 15 different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the

Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS now.** Write to-day. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.
T. B. Vallette & Son, Salina, Kan.

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Just Received a LARGE CONSIGNMENT OF

Second-Hand 60-lb. CANS

— Two in a Case. —

The cans are just as good as new, and we are offering them for quick sale at the following prices:

In lots of 5 cases of 2 in a case....50c a case
" 10 " 2 " ....45c "
In lots of 25 cases of 2 in a case....40c a case
" 50 " 2 " ....35c "
In lots of 100 cases of 2 in a case............32c a case

GRIGGS BROTHERS, 521 Monroe St., Toledo, Ohio

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Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of SUPPLIES. Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
17A26t 138 N. Pleasant St., NORWALK, OHIO

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Red Clover Queens

J. P. MOORE STRAIN

Mated to choice drones Select Untested, $1.00; six, $5.00.

WALTER M. PARRISH,
30A5t LAWRENCE, KAN.

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Send for our 1906 Free Illustrated Catalog. Good Goods, Low Prices and Prompt Shipments are what you get if you send your orders to—

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BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen.....	$ .65
" Tested Queen.......	.90
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1-comb nucleus (no queen)	.80
2 " " "	1.40
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1 Un. Caucasian Queen,	1 25
1 Tested " "	1.75

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

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Italian and Caucasian Queens

A special discount is offered on all Queens and Bees ordered to be delivered before the close of the season of 1906. Pure stock, pure mating, and **excellence in grade** guaranteed. Address,

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R. F. D.

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Queens Now Ready to Mail

None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

GRANT ANDERSON,
20Atf SABINAL, TEXAS.

Mention Bee Journal when writing.

Moore's Strain of Italians

AS RED-CLOVER WORKERS

W. T. Davison, Velpen, Ind., says:

"When other bees are loafing, your stock go to work on red clover, and they seem to have a kind of get-up about them that the other bees don't have. They have never failed to work on red clover, and many times I have found them on it when there was plenty of white clover."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders **By Return Mail,** and shall probably be able to do so until the close of the season.

J. P. MOORE, R.F.D. 1 **Morgan, Ky.**
26Etf Mention Bee Journal when writing.

Marshfield Hives and Sections

kept in stock; none better. **Dittmer's** Foundation and all kinds of Bee-Keepers' Supplies sold right. Thousands of Shipping-Cases, 24-pound, 13c; Fancy White Basswood, 16 cents. **Honey** and **Beeswax** wanted. Send for free list, and save 20 percent on your order.

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On August 28th and 29th, the Nickel Plate Road will sell tickets to New York City and return, at rate of one fare plus $2.00, from Chicago. Return limit, September 4th, leaving New York City. For detailed information, call on or address, John Y. Calahan, General Agent, 107 Adams St., Chicago.
21—32A3t

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34Etf L.B. 484, SPIRIT LAKE, IOWA.

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Queens from our fine strain of 3-band Italians will not disappoint you; bees are gentle and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c, $6 per doz. Tested, $1 each.

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GOLDEN AND LEATHER-COLORED ——ITALIANS——

Price of Golden Queens. Before July 1st: Untested, $1 each: 6 for $5; 12 for $9. Warranted $1.25 each; 6 for $7; 12 for $13. Tested, $1.50 each. Select Tested, $2. After July 1st: Untested, 75c each; 6 for $4; one dozen, $7. Warranted Tested, $1.25 each; 6 for $7; one dozen, $13. Tested, $1.50; Select Tested, 2; Breeders, $5. Caucasian Queens will be ready to mail July 1st; Untested, $1 each; 6 for $5. Warranted Tested, $1.40 each; 6 for $8.

We have three yards—two Italian and one Caucasian—and mean to meet the demand of the trade. Prices of Nuclei on application.

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C. H. W. WEBER CINCINNATI OHIO
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Honey and Beeswax

Chicago, Aug. 6.—There is now offered some good lots of comb honey, and while the trade in it is not active, it is taken at 15@16c for fancy, 14@15c for No. 1, 12@13c for fancy amber, and 8@10c for fancy dark. Extracted is slow of sale with prices according to quantity and quality. White extracted, 6½@7½c; amber, 5½@6½c; dark, 5@5½c. Beeswax, 30c.
R. A. Burnett & Co.

Toledo, July 30.—The market on comb honey at this writing is rather unsettled, as dealers are waiting to see what the market is going to do. There has not been very much honey offered as yet and bee-keepers seem to be holding their crop for a larger price. Fancy white comb would bring here in a retail way 14@15c; some extra lots, 15½c; No. 1, 14c, with very little demand for lower grades. Extracted white clover in barrels would bring 6@5½c; cans the same. Beeswax 26@28c.
Griggs Bros.

Indianapolis, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, Aug. 9.—Advices from different points are rather conflicting in regard to the honey crop this season, and, consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. Wm. A. Selser.

New York, July 10.—We still have some demand for comb honey, mostly for white grades, which sells at from 13@14c, according to quality. A very limited demand for light amber, with sufficient supply, and prices ruling at about 12c. Extracted in fairly good demand, with sufficient supply to meet all requirements. Quite some arrivals from the South, and common grades are selling at from 50@58c per gallon, and better grades at from 60@65c per gallon. California strong, and white is selling at from 7@7½c, and light amber at from 6@6½c. No near-by honey in the markets as yet. Beeswax steady at 30c per pound.
Hildreth & Segelken

Cincinnati, Aug. 3—Comb honey finds ready sale here for fancy and No. 1 at 14@15c per pound in a jobbing way. This is a poor market for grades lower than No. 1. The receipts of extracted honey are normal, although the demand is not so good as it was 60 days ago. Nevertheless, there is no material change in prices. Selling amber in barrels and cans at 5@6½c; fancy white at 6½@8½c. For choice beeswax, free from dirt, 30c per pound, delivered here. The Fred W. Muth Co.

Denver, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
The Colo. Honey-Producers' Assn.

Kansas City, Aug. 9.—On account of the heavy receipts of all kinds of fruit, the demand for honey, both comb and extracted, is very limited. We are quoting No. 1 fancy white in 24 sections at $3; No. 2, at $2.75. There is no new extracted in market; old stock is selling at 5½@6c. Beeswax, 25c. C. C. Clemons & Co.

Cincinnati, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No. 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5¼@5¼c. Beeswax, 30c.
C. H. W. Weber.

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YOU CAN DOUBLE YOUR MONEY from your honey crop by using JELLY-TUMBLERS OF CORRECT STYLE, as containers and keeping your market supplied. No other glass so economical. Write for quotations. OREL L. HERSHISER,
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FARMER'S CALL, Quincy, Ill.

Getting Subscriptions at Fairs.—The season of annual fairs will soon be here. Perhaps some of our readers would like to take subscriptions for the American Bee Journal at their local fairs. If so, kindly write us for terms and sample copies (telling how many wanted). We would like to have one or more representatives at each fair.

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To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping cases; also extracted honey. We are cash buyers, and remit on receipt of goods.
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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W. YORK & CO.,
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46th Year CHICAGO, ILL., AUG. 30, 1906 No. 35

ABOUT A BEE

(Nature Study for Young People)

BY EUGENE SECOR

I

Here's a bee, my children, see?
Gath'ring sweets for you and me.
On Sir Dandy Lion's crown
She is yellow, that was brown;
Yellow with the golden dust
Lent to her in solemn trust;
Blossoms bart'ring gold for gold
Thro' this dusty trader bold.
Dandy Lion seeks a bride,
Sends his off'rings far and wide
By his trusty friend, the bee,
And with honey pays the fee.

II

See her double pairs of wings!
And they are such perfect things—
Airships are as poky snails
Where she spreads her gauzy sails;
While they're getting under way,
Miles she'll go and call it play.

III

Hairy legs are good for bees,
Therefore she has six of these.
She has baskets on her knees
T' carry bread for baby bees.
She has hooks upon her toes—
Uses them to climb, and knows
How to make a ladder where
Others need a boost or stair.
By these hooks bees hang like strings,
Clasping others' legs or wings.

IV

See her suck the honey up
From Sir Dandy Lion's cup!
Could you see her hollow tongue
You'd imagine she is young,
Sucking "lemo" thro' a straw—
Finest drink you ever saw?
Yes, but her's is ready-made,
And beats any lemonade;
Sugar'd just to suit her taste—
Is it strange that she makes haste?
She'll go home and tell the rest
That she's Dandy Lion's guest;
That he fills the golden cup
Ev'ry time she drinks it up.
If you had a tongue like that
Would you not throw up your hat?

V

Notice those two prongs in front—
They're put there so she won't bunt
'Gainst her ma some moonless night
When the stars are out of sight;
She just *feels* her way along
Thro' the dark and midst the throng.
Feelers take the place of hands,
When she meets her dearest friends,
Reaches out as if to say,
"Howdy do? Art well to-day?"
Some wise men think they're her ears—
(*Feels* the sound instead of hears).
These same wise men say she smells
All the fragrant lily-bells,
All the clover fields in bloom,
And the linden's choice perfume.
Thro' these horn-like antennæ—
Useful, aren't they, to the bee?

VI

But, you say, she has a sting
That is not a pleasant thing.
Yes, but roses, too, have briers,
And too many fond desires
Have a stinger at the end;
Sometimes *we*, too, sting a friend:
Shall we, then, demand of her
All the virtues when *we* err?
Stingers are for self-defense
'Gainst attempts of violence.
We, too, may defend our homes
'Gainst whatever evil comes.
She, like us, will sometimes use it.
Sometimes in her heat abuse it,
Never saying, "Please excuse it,"
But *she* seldom fails to lose it.
We may sting, and sting again,
Tho' our friends are dead with pain.
Stingers, children, are all right
When they don't appear in sight.

—*Northwestern Agriculturist.*

Forest City, Iowa.

QUEENS

BY RETURN MAIL

Golden or Leather-Colored Italian

A few unsolicited testimonials showing what Quirin's queens are doing :

Our folks say that your queens are extra-fine.
The A. I. Root Co., Medina, Ohio.

We have good reports from your stock from time to time. George W. York & Co., Chicago, Ill.

On every hand I hear good words of Quirin's queens. B. S. K. Bennett, Los Angeles, Calif.

Your queens did finely. It was one I purchased last year that gave me over 600 pounds of honey.
J. L. Gandy, Humboldt, Nebr.

The breeder is surely a very fine one ; her daughters do grandly.
Campbell & West, Hartstown, Pa.

I had a queen of you last year which produced bees that beat anything ever seen in this part of the country. E. L. Messenger, New Haven, Conn.

The nuclei you sent J. A. Adams did just spendidly. Each colony stored at least 75 pounds of honey.
F. P. Merritt, 13 Breckenridge St., Lexington, Ky.

A few years ago I bought a queen from you which proved to be the best I had for years.
H. C. Shirley,
Cashier of Liberty Bank, Liberty, S. C.

I have had the pleasure of seeing the results of your queens at Mr. George W. Stanley's apiary, at Scuffletown, Ky., and that is why I am ordering this half dozen. C. W. Brenner, Newburg, Ind.

I bought a queen from a neighbor last year who said he got her from you. She made for me 193 sections of honey after July 4—the best my other queens did was 64 sections.
C. E. Woodington, St. Anne, Ill.

With great respect I write to you in regard to your dealing and queens. If you want any references you can refer to me, as I can't recommend you too highly. Your queens are the best I ever saw. I have one hive of bees among my 45 colonies containing a queen from you that $50 will not buy.
Morris Coon, Route 2, Locke, N. Y.

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Select queens...........	75	$4 00	$7 00
Tested queens..........	1 00	5 00	9 00
Select tested queens....	1 50	8 00	15 00
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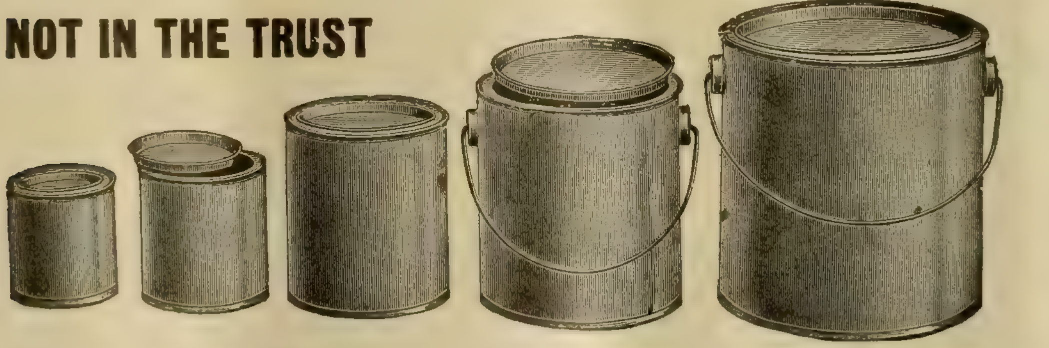

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At this season of the year Supplies are wanted without delay. The crop is being harvested and must be put up for market. Shipping-cases and honey-packages of all kinds are in demand. We are in position to fill your orders with the greatest promptness. With full stocks at all branch houses and agents everywhere fully stocked, your order has best possible attention. Look over list below and find the branch or agent from whom you can obtain Root's Goods quickest and at the least transportation charges.

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Five-Gallon Square Cans

This is the favorite package for shipping extracted honey. There can be no shrinkage and consequent leakage, no taint to the honey as is often the case with wooden packages. The cans being square, economize space and are easily boxed.

As we have an overstock of cans for honey we make the following special prices on cans from Medina, to reduce stock. If ordered from any of our branches or agencies east of the Missouri River, add 5c a box or 50c per 100 cans to cover freight to those points.

No. in a box	Capacity of each Can In gallons		In honey	Price of 1 box	Price of 10 boxes	Weight of 1 box
1	5-gallon can boxed	60	pounds	$ 50	$ 4 50	10 lbs.
2	5 gallon "	60	"	75	7 00	15 lbs,
10	1-gallon "	12	"	1 25	12 00	20 lbs.
12	½-gallon "	 6	"	1 25	12 00	20 lbs.
24	¼-gallon "	 3	"	1 75	16 50	25 lbs.
100	1-gallon "	12	"	10 00	95 00	110 lbs.
100	½-gallon "	 6	"	8 00	75 00	80 lbs.
100	¼-gallon "	 3	"	6 00	55 00	60 lbs.

In lots of 50 boxes or over we will furnish the 60-lb. cans, two in a case, at 65c a box.

Half-pound Tumblers

These are to supply the increasing demand for a cheap jar for holding one-half pound honey and retailing for 10c. We can supply these tumblers at $4 a barrel holding 24 dozen. For less than a barrel we will repack for 25c per dozen, or put them up 4 dozen in a case ready to be reshipped when filled at $1 per case; 10-case lots at 95c. At present these are in stock only at Medina.

No. 25 Glass Jar

This is a very neat, clear glass jar holding 1 pound of honey We have sold this jar for years and in larger quantities than any other. Put up in reshipping cases of 2 dozen each. Prices same as the Simplex Jar.

Simplex Jar

The handsomest glass package on the market. Your honey in this package will find a place among the finest novelties on the grocery shelves. Create a demand for your honey by packing in the best possible manner.

We are now prepared to offer the Simplex and the No. 25 Jar put up in partitioned reshipping cases of 2 dozen each at $1 per case; 10-case lots at 95c per case.

Address branch nearest you.

THE A. I. ROOT CO., Factory and Main Office, Medina, Ohio

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GEORGE W. YORK, Editor | CHICAGO, ILL., AUGUST 30, 1906 | Vol. XLVI—No. 35

Editorial Notes and Comments

Fresh Blood in the Apiary

Experienced bee-keepers need no advice on this point. Some of the most successful with bees giving satisfactory service, have still thought it advisable to get fresh queens from a number of different sources, in hopes that something better might be found, or that the intermingling of new blood might infuse at least a little additional vigor. If, out of 6 queens bought, 5 proved inferior, there was no lamentation, provided the sixth proved at least a *little* better than the old stock.

There are thousands of bee-keepers going on from year to year with bees not up to the average, and yet never having made the slightest effort toward improvement. The investment of a few dollars, or even a single dollar, would be likely to yield a profit not to be despised. Suppose we figure a little. One of these men has such bees that in a series of years he has a yield of honey that yields him on the average a certain amount—say $2.50 per colony. If he will spend a dollar for an untested queen, and requeen his apiary of 50 colonies with that blood, the likelihood is that instead of $2.50 per colony he will have $3. In many a case the increase would be a good deal more, and in some cases less. Let us, however, be very conservative, and estimate that the increase will only come a year after the purchase of his new queen. At 10 cents per colony, the gain on the 50 colonies would be $5. In 5 years it would be $25. Would he not consider it a profitable thing to have the investment of a dollar bring him in $25 within 5 or 6 years? The average apiary, however, which has never before had fresh blood introduced can be pretty safely counted on to gain 5 times as much.

Neither should the figuring in this line be confined to those with stock away below the average. Not many apiaries are stocked with bees of such character that fresh blood might not bring material gain. In any case it may be well worth while for many a reader to do a little figuring and thinking as to whether he might not do a profitable thing to make a little change in his stock; this without in the least conflicting with the thought that proper selection and breeding from the best in his own apiary is always in order.

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Co-operation Among Bee-Keepers

In several parts of the country there seems to be a desire on the part of bee-keepers to benefit themselves through some plan of co-operative effort. This is an excellent idea.

There are two directions in which, so far, something has been attempted that promises success, and, in fact, has succeeded to an extent. One line is that of buying bee-supplies; and the other, marketing the honey crop.

As to buying bee-supplies, it certainly is a good plan for a number of local bee-keepers to club together, and have one of their number order for all, then on receipt of the goods distribute them. Or, if the local bee-keepers are not too widely scattered, they can form a bee-keepers' organization, then select some member as manager, and have him order supplies for all the members.

In either case, whoever is to do the ordering, can write to several manufacturers for prices on whatever goods are wanted. In that way, doubtless, almost wholesale prices could be secured, as it would be buying in large quantities or in something like a wholesale way. It seems to us that *quantity* should govern prices, and not the fact that a bee-keeper is a member of a certain organization. We should think that dealers and manufacturers would save themselves much trouble and annoyance, and could allow even lower prices, if goods are ordered in large quantities, and to be shipped to one place.

When it comes to selling honey, surely it is a splendid way for several producers to load a car; or, if a bee-keepers' association, to load several cars, rather than to sell and ship individually, and thus run the risk of more or less breakage and loss in shipping.

We believe that bee-keepers would do well to get together in local groups, and work at least the co-operation plans mentioned. Of course, when it comes to State or National co-operation among bee-keepers, that is a different matter. Bee-keepers are usually too much scattered over a State, or throughout the United States, to make much of a success of co-operation on such large scales, but if limited to localities we believe it could be done all right.

We used to think that something could be done in a national way to handle the honey crop. But there seems to be too much distrust existing ever to accomplish anything if a whole State, or the whole United States, were taken in on a co-operation plan. There are always some who are afraid the other fellow will make a nickel for himself in the deal, no matter how much he may have done to help put dollars into the pockets of all. But if a few local bee-keepers get together, where all are personally and intimately acquainted with each other, we believe a satisfactory business can be done for all who join in such co-operative effort.

We should be glad to hear from any who think they have really practical plans along these lines; and especially from those who may already have succeeded satisfactorily, if there are such.

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Where Best to Market Honey

Even though the present season has been rather unfavorable for a great many bee-keepers, no doubt there are others who have been more fortunate, and will have some honey to dispose of. In such latter cases the question will arise, Where can I sell honey to the best advantage?

Perhaps in the majority of instances the home market will prove best, especially where the honey crop is not a large one. It rarely ever pays to ship a small quantity of honey to a distant market. It would seem that a town of almost any size would be able to use nearly all the small quantities of honey produced near it, if the town people were properly approached and instructed as to the value of honey as a food. Of course, the price asked by the bee-keeper would be a reasonable one. The prices for comb honey in a retail way in such localities might be put at 2 or 3 cents per pound above the wholesale prices quoted in the market columns of the bee-papers. Of course, the retail price of extracted honey might well be at least double that quoted in the market reports. In reality, however, a pound of extracted honey is worth more for food than a pound of comb honey, as usually the weight of the section is included with the comb honey, and, of course, the wax in the comb which is of no real benefit to the consumer. Some people even think it a little detrimental, although we do not.

Where a bee-keeper has a large quantity of honey it often is impossible to sell it in a retail way in the home market, and so it must be shipped to some larger town or city. In such cases it might be best to send a trial crate of perhaps 100 or 200 pounds, put up in 12 or 24 pound shipping-cases, and 6 or 8 of these cases in a shipping-crate, first putting 4 or 6 inches of hay or straw in the bottom of the crate. After nailing a few boards across the top of the crate, 2 pieces of wood extending 4 or 6 inches beyond the ends of the crate should be nailed on the sides, even with the top of the crate, to be used as handles for the trainmen to take hold of.

Before shipping honey to a distant market every precaution should be taken to know that it is going to a well-known, reliable dealer.

While, of course, city people are as anxious to buy honey as any one, still we would urge small producers to sell their honey in the home market, if at all possible. We believe if a proper effort is put forth to do this, a larger financial amount will be realized. There are many bee-keepers who are unable to supply their local demand. They have gone about developing it in a successful and business-like manner, and simply have succeeded. What some have thus done others can also do.

The producer's name and address should always be on every package of honey sold in the home or local market. It is a great advantage also to distribute literature on the value of honey, telling how and where to keep it in the home, etc., in the local market. The more familiar consumers become with honey as a daily table food, the more of it we are certain they are going to use; but here is where the producer has a large job on his hands. He must educate his prospective consumers if he would reap the largest returns, or develop a good demand for his honey.

Where the producer is shipping his honey to a city market, the name and address should be omitted from both sections and shipping-cases, unless the dealer gives his permission for the name and address to appear. If a certain lot of honey sells well after the dealer receives it, you can rest assured that he will not forget the man who produced it, and will arrange to take his honey every year. So it is not necessary for the producer to have his name and address on honey shipped to the city market. Many a honey-dealer would not handle any honey with the producer's name on it, for the simple reason that he (the dealer) is working to build up a trade for himself, and not directly for the producer. When we were in the honey-business we found that if we left the name and address of the producer on any case of honey, the dealer would sometimes try to buy his honey direct the next year from the producer, and thus cut us out of the deal altogether. This, of course, was not very enouraging to us after we had gone to considerable expense in building up a trade in honey. Other dealers have had the same experience, and of course profited by the lesson learned, as we did. However, as before stated, in the local honey market the name and address of the producer should always be put upon his goods; that is, where the producer retails it himself or sells direct to consumers.

Miscellaneous News-Items

Mr. Orel L. Hershiser, of Buffalo, one of the leading bee-keepers of New York State, made us an office call Aug. 18. He reports a very short crop of honey from his 300 colonies of bees. His two small children, that were similarly burned during the past few months, are recovering nicely. Mr. H. has several apiarian inventions of considerable merit, among them being a combined bottom-board and hive-stand, an entrance bee-feeder, and a wax-extractor. Bee-keepers will learn more about these things later on.

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National Report Bound in Cloth.—Mr. Grant Stanley asks this question:

EDITOR AMERICAN BEE JOURNAL—
Why not have the report of the National Bee-Keepers' Convention bound in cloth, so it will come to its members in a condition that it can be read and kept for future reference? GRANT STANLEY.

We know of no reason why it can not be so bound, unless it is a question of extra expense. You see, an association can't do everything on an annual membership fee of only $1.00, and perhaps in a majority of cases only 50 cents, where a local association joins the National in a body. The extra cost of cloth binding and postage would be about 20 cents per copy. Of course it is worth it, when it comes to handling, reading and preserving the Annual Report.

Perhaps the Board of Directors of the National will consider this matter when getting out the Report of the San Antonio convention.

◆

National Financial Condition.—General Manager N. E. France, of Platteville, Wis., has sent us a financial statement dated Aug. 20, 1906, showing the condition of the treasury of the National Bee-Keepers' Association at that date. He has received in dues $697 since Nov. 1, 1905, 710 members paying 50 cents each through local associations, and 342 individual memberships at $1.00 each. For advertising in the last Annual Report, he received $144.50. There was cash on hand Nov. , 1905, $1252.

The total expenses from Nov. 1, 1905, to Aug. 20, 1906, were $1395.36. There was on hand Aug. 20, 1906, $698.

The Honey-Producers' League Fund of $1408.27 is held separate, having been raised for special purposes.

The last Annual Report cost $831.80 for 3000 copies, or about 28 cents each, postpaid. A crop report sent to the membership cost $75; reporting the last National Convention, $100; printing and mailing, $456.80; and postage and express charges, $200.

It will be seen from the foregoing figures that the General Manager of the National Bee-Keepers' Association does quite a business, for which he is paid a very small amount—hardly to be called a salary. In fact, there are few bee-keepers so situated that they could take care of the interests of the National as does Mr. France. We don't know just what the exact membership is now, but it is likely somewhere around 2000. It ought to be 20,000, at the very least.

◆

The Apiarist—a monthly bee-paper, edited by C. S. Phillips, of Waco, Tex.—has been coming to our desk for a few months. As it has been so urgently asking for notice, we simply *must* announce its birth. We expected Mr. Scholl to mention The Apiarist in the department of "Southern Beedom," which he was conducting in this Journal, and even suggested that he do so. But as he has not done it, we give this paragraph. We may say further, that with the exception of some discourteous references to the American Bee Journal for not announcing its advent sooner, the contents of The Apiarist are very good indeed. It is also nicely gotten up, and should have a large circulation. We wish it much success. The subscription price is $1.00 a year.

◆

Getting Subscriptions at Fairs.—The season of annual fairs will soon be here. Perhaps some of our readers would like to take subscriptions for the American Bee Journal at their local fairs. If so, kindly write us for terms and sample copies (telling how many wanted). We would like to have one or more representatives at each fair

Contributed Articles

Queens—How Many Eggs Do They Lay?

BY G. M. DOOLITTLE

A correspondent wishes me to tell, through the columns of the American Bee Journal, about how many eggs the ordinary queen of the honey-bee will lay. He says he has a neighbor bee-keeper who claims that a queen will lay about 100,000 eggs in a year, and when laying that many she will become worthless at the end of the second year. And in his giving the name of his neighbor, I recognize the same as one of our men who is often seen at bee-conventions, and who takes an active part therein, so that it may be well to say a few words on this subject, for in such sayings as these harm may come to those not used to thinking and experimenting for themselves in these matters. From such ideas as this, there is little doubt but that the notion has prevailed—which has been so common during the late past—that all queens should be superseded when they are 2 years old.

Now, the superseding of all queens as soon as they are 2 years old is quite a task, even if it were necessary, but when we come to consider that, with the rank and file of bee-keepers, most queens are as good the third year as the second, while very many queens prove good the fourth year, unless the apiarist uses such strenuous plans that they are over-worked, we see the waste of time it is to go through all this work simply for the reason that some unthinking person (unthinking along this line) has recommended such a course. To be sure, each person should think and act for himself, but most beginners in bee-keeping think what they read and hear on apicultural subjects must be right, or very nearly so, at least. Therefore, it is always well to use due caution in writing and speaking, so that we do not give voice to that which is misleading.

Now let us look into the matter a little. I have used during the past as small a brood-chamber as any one in the United States, the same holding only 9 Gallup frames, and having a capacity of about 800 square inches of brood-comb space. This comb is kept pretty well filled from the first of June to the middle of August, or for about 75 days. As there are about 50 cells of worker-size to every square inch of comb, the queen must lay about 40,000 eggs every 21 days (that being the time it takes to perfect a worker-bee from the time the egg is laid by the queen), or about 142,000 bees in the 75 days.

Now all good colonies, when wintered on the summer stands, will begin rearing brood during the month of January, and by taking the average increase of eggs laid from then to the first of June, and the decrease from the middle of August till the end of the breeding season, which is about Oct. 1 with us, we have about 100,000 more, or about 242,000 for the year. If this is the case with a small brood-chamber, it will be seen that still more bees would be reared in a large brood-chamber of nearly double this capacity, such as is used and recommended by the Dadants and others; and how any one can come to the conclusion that 100,000 is the number of eggs a queen will lay in one year, and that she will be worthless at the end of 2 years when laying at that rate, is something that I can not understand, only by way of concluding that he is not a close experimenter, or else does not stop to weigh what he says.

With my small brood-chambers queens average good and prolific for 3 years, some doing good work even in their fifth year; but as a few will fail in their third year we will call it only 3 years that they will keep up this rate of laying. This would give 726,000 eggs as the number laid by the queen during her lifetime, on an average, and with only average queens, instead of 200,000 as was given by the bee-keeper to our correspondent.

If I am correct, and I believe I am, from many experiments I have conducted, it will be seen that if a queen laid only 100,000 eggs a year, she would be good for 7 years. And if this is so, then we can see the extreme folly in the recommendation to supersede all queens during the fall of the second year of their life.

If we are using a system of strenuous work for the queen, as is the one who uses a 10-frame Langstroth hive, and coaxes the queen to fill every available cell with brood, then there is some propriety in the argument that a queen may not prove good longer than 2 years. With the plan I am now using for the production of comb honey without swarming, using 10-frame Langstroth hives to accomplish such results, the queens in these hives lay nearly as many eggs in 2 years as they will in 4 years in the small brood-chambers of only 9 Gallup frames. But even in this case, the bees take care of the queen-matter very largely, for the Italian bees will usually supersede their queen during August, when she has begun failing, or seems likely to fail before the end of another honey season arrives.

Where any bee-keeper lives in a locality in which the bees are liable to hold on to their queens after their usefulness is past, as to the production of eggs, then it would be advisable for him to take this matter in his own hands, and supersede all failing, or those liable to fail, at the proper time. But let each one be sure of the inside workings of the hive, knowing what is going on there, so that he can work as intelligently along this line as he does with his stock of poultry, sheep, cattle, or any other thing with which he is familiar.

It is a strange thing that possesses the heads and minds of most beginners in bee-keeping, that they need not be as familiar with the bees as they are with other stock and things. Let us get away from such ideas.

Borodino, N. Y.

* * *

No. 17—Dadant Methods of Honey-Production

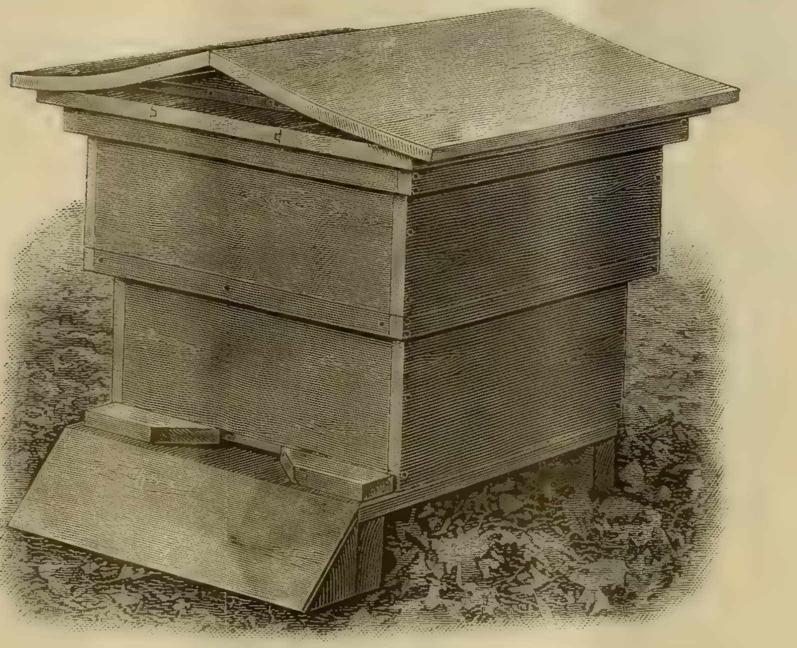
BY C. P. DADANT

In connection with the question of hive-ventilation, which I mentioned in a previous number, it may be well to consider the matter of artificial shade or shelter for the hives. In this, as in ventilation, the question of latitude is of some importance. In countries like France, England, Germany or Canada, above the 45th degree of latitude, the sun shines at an angle which renders it much less dangerous in hot summer days than it is in the Mississippi Valley, for I must acknowledge that, although we are living in one of the most fertile countries in the world, yet we find here, so to speak, the heat of Africa during the summer, and the cold of Sibera during the winter.

I have kept bees in large numbers in about 15 different spots, some in the shade of thick timber, some under apple-trees, under grapevines, in the open fields, and under artificial sheds. We have had hives without any shelter whatever, others with a thin board-roof, and others with very substantial rain-and-sun shelters. The first hives we used were unpainted, and there was only the thickness of 2 ordinary ⅞-inch boards between the combs and the sun exposure. We soon tired of this. The sun warps the boards, checks them, and allows the rain to beat in when a sudden storm comes. A hive-top made of ordinary lumber, even though clear of knots, will last but a few years. Painting helps it, but the careful man who wishes to preserve things in good order soon gets tired of seeing his hive-tops defaced by the changes from sun to rain and snow.

Some leading apiarists use tin tops for the hives. This is the only thing that will retain the hive's good shape, and will keep out moisture. But it must be placed over some heavy felt paper or other non-conducting material, or the tin would increase the danger from heat to the frail combs when they are loaded with honey.

My brother-in-law, Mr. E. J. Baxter, who has followed our methods for some 30 years, has roofs made after the pattern formerly contrived by my father. (See cut.) These roofs are graceful, and change the looks of a hive from a box to a diminutive dwelling. But they are easily blown off when in an exposed situation. Besides, they are expensive. We have at all times plenty of boxes in which we have received beeswax or other articles, and which have no longer any use. The largest of these boxes are knocked to pieces each year and made into flat roofs, by cleating them on two cross-pieces, one of which is shallower than the other, in order to give the roof a little slope. Any dry-goods box will make six roofs. If the roof is used at once when the hive is first brought to the apiary, very little damage will be suffered by it from the inclemencies of the weather, whether heat, rain or cold. Even when these roofs are not water-tight, which is the rule rather than the exception, they leak only in spots, and the greater portion of the moisture from the atmosphere is warded off. But what is of more importance is that the direct rays of the sun are entirely intercepted. This is the principal advantage of a roof over a tight hive-top made of either tin or other water-proof material.



DADANT HIVE-ROOF FOR SHADE AND VENTILATION.

We aim to make these roofs at least 6 or 8 inches longer than the hive-top, so that the entrance and alighting-board are both shaded and sheltered in most circumstances. In the winter the snow is very often kept off the alighting-board, owing to the projection of the roof. If a thaw sets in, when there is snow on the ground, and the bees show signs of taking flight, we throw the roofs down, bottom side up, in front of each hive. It gives the rays of the sun a better chance to warm the colony, and procures a clean alighting place of good size to the flying bees, which are often so dazzled by the snow that they go but a very short distance without alighting.

A flat roof has often proved useful to me, in setting down a super or a hive, when the apiary was in an uneven spot, or in a steep slope, for I have kept bees in a spot where one had to look twice before setting anything down, for fear of seeing it slide to the foot of the hill. The roof, with one side higher than the other, is of help in such a spot.

To give the reader an idea of how indifferent material may be used to make roofs, I will say that at a time when we bought beeswax in sugar hogsheads from the Southern dealers, we had accumulated a number of these hogsheads which were at a discount until I concluded to try to make them into roofs. The staves, which had to be ripped in two, also had to be ripped to even widths, as each stave was wider in the middle than at the ends. But as they were made of cypress, a very lasting wood, I even now occasionally come across one of those roofs, still in use as a sun-shelter.

Some one suggests to me that, when the hives are in the shade of trees, the roof is less needed. This is an error. In the sun, the dampness caused by steady rains is soon evaporated. In the shade of trees it remains for days. We have more need for a rain-proof roof in a shaded apiary than in one which is exposed to the broad sunlight. In the latter place, anything that breaks the rays of the summer sun is sufficient to preserve the hives, especially if their tops are painted.

Another advantage I find to a movable roof, is when a sleet or wet snow has fallen and is thawing slowly and dripping water about the edges of the hives. If the cover is a movable roof, we do away with the annoyance at once by removing it temporarily, while the bee-keeper whose hives have no roof, must let the water slowly drip, or at great trouble scrape off the melting ice or icy snow.

The cost of roofs such as I recommend and use is a trifle, not worth considering. But the apiarist who wants an elegant apiary will prefer the roofs that Mr. Baxter uses.

Hamilton, Ill.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

"A Few Words for the Would-Be Bee-Farmer"

A clipping from the Chicago Daily News has been received which is of interest in more than one way. It is taken from the department conducted by Marion Harland, whose writings have been read with interest in thousands of households for many a year. It reads as follows:

> Our valued correspondent, "H. T. G.," herbalist, M. D. and benefactor in general to all who need practical counsel, has a few words in season for the would-be bee-farmer:
>
> "About bees—I have none for sale or to buy. Studying with a man who built up 150 stands in 5 years out of others' failures, I find this, that to avoid fakirs read books. Then salt the books heavily before digesting, to get the truth; for good book-writers are poor bee-keepers. Those who get rich on bee-keeping only instruct confidential friends who work with them and get their sympathy. I learned this—that the expense exceeds the profit unless you put your whole time directly with the business and plenty of cash. Competition has lowered the price, and ignorant competitors keep diseased bees and scrubs to mix with a good apiary. Laws are not yet stringent enough for protection. My friend says that you must have an expensive bee-cellar for winter. (He saved all his bees last winter and others lost heavily.) Also you must have a large number, so as to trade brood-combs for honey-combs, as an equal quantity of each is necessary. Bees mismanage as humans do. The intelligence required to prosper with bees would win in other occupations. But the work does cure nervous, overdone people. Average income is $2 per hive a year. Experts may make $20, sometimes. Colonies and hives cost from $5 to $20 each, complete. With risk of loss this is small profit. He says he prefers to buy his bees and produce only honey to sell rather than to produce his own swarms. He prevents swarming and keeps his colonies as large as he can. A weak colony is a loss. It takes them all to keep house and none left to gather honey. He says it ages the bees too

fast to rob their honey and substitute sugar. Old bees eat their heads off and die; young ones eat no more and work later to replace old stores.—H. T. G., M. D."

On the margin of the clipping the sender has written, "What do you call this ? !" Those two punctuation marks at the end of the question are very suggestive of the state of mind of one who attempts to classify the clipping. Marion Harland is one of the best-informed women living, wholesome in her teachings, and exceptionally reliable. Evidently, however, she is not a practical bee-keeper, and gets her information at second-hand from "H. T. G.," who, in his turn, deals out second-hand information.

The whole thing bears evidence of a sincere desire to help, on the part of one who has such superficial information that error is curiously intermingled with truth in such way as to be untangled from the truth with difficulty. "H. T. G." is confessedly not a bee-keeper, but has been coached by "a man who built up 150 stands in 5 years out of others' failures." Passing by the question whether a hive with bees in it stood on each one of the 150 stands, one can not help wondering just how that building up on the failures of others was done, and whether there was any success on the part of the "man" himself that would warrant H. T. G. in depending upon him for instruction.

To avoid fakirs read books, and mistrust much that is in the books, because they were written by men who didn't know what they were writing about. Rather a discouraging outlook, isn't it ? "Those who get rich on bee-keeping" won't tell, except to the few in the inner circle. What a libel on the many successful bee-keepers who have no secrets, and who cheerfully give the benefit of their experience to all and sundry !

"The expense exceeds the profit unless you put your whole time directly with the business and plenty of cash." That cuts out nearly all of us sisters, doesn't it ? How many of us put our whole time directly with the business ? Or, for that matter, how many of the brothers, either ? Is there one in a hundred ?

An expensive cellar must be had, and in order to be able to swap one for the other there must be an equal number of brood-combs and honey-combs—wonder just what can be meant by that. Well, go on and make your own comments on the rest.

Among the things said that are all right stands one sentence that, coming from the pen of an evidently candid M. D., may be considered as spoken with authority : "But the work does cure nervous, overdone people."

Honey in Green Salads

Here is something given in Praktishcher Wegweiser fuer Bienenzuechter by Emma Freyhoff, presumably a member of the family of the editor, Herr Ed Freyhoff :

Have the respected housekeepers tried using honey instead of sugar in the preparation of green salads as a daily food for the hot weather ? Try it once, if you wish to bring to the table something especially good for your folks. Beat up honey with vinegar to taste, pour it over the salad previously provided with oil, mix it lightly through, and it will have an exceedingly fine and pleasant flavor.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

More Ontario Honey-Crop Reports

Martin Emigh, Holbrook, July 10.—Clover honey is nearly a failure. Basswood is just coming out. I don't expect much.

U. H. Bowen, Niagara Falls, July 10.—The honey crop is a failure. As we have no fall flow here, we will have to feed for winter.

Edwin Trinder, Simcoe, July 10.—I am not in an alsike district. We have only white clover. I have not taken any honey off yet, but it is about ready now. My bees are working well, and are in good shape. I have had only 4 swarms so far. I gave the bees plenty of room.

F. A. Gemmill, London, July 14.—No, there will be little or no white honey in this section this year.

John L. Grosjean, Brookside, July 16.—The honey crop is not very good, but if this week keeps as fine as last, we will have a medium yield.

J. A. Munroe, Munroe Mills, July 13.—White honey is a failure here. The prospects for dark honey are very poor.

A. C. McTavish, Carleton Place, July 14.—Clover honey is a failure. Basswood bloom is plentiful, but later than usual.

Alex Taylor, Paris, July 16.—The honey crop is very poor. I will not have more than ¼ of a crop.

James Martin, Hillsdale, July 13.—I do not expect ½ a crop. Plenty of bloom, but the weather has been bad.

James Storer, Lindsay, July 15.—I do not expect over ¼ of a crop of white honey, although we will have one week more before the fall honey comes in ; and I do not know any other bee-keeper around here that will have any more honey than I have.

J. J. Hurley, Brantford, July 10.—The flow here is only ½ of what it should be. The bees will average about 50 pounds to the colony. Basswood ought to be good, although I do not expect much from it. I fear, on the whole, that the honey crop will be very poor this year.

John Newton, Thamesford.—White honey will also be a very short crop. At present the bees are working well on the basswood, which, I think, will help us out a little.

John Murphy, Silver Hill, July 16.—White honey is a failure here. The basswood has been in bloom for a week. It is very full of honey, and there was lots of white clover for my bees to work on. They came through all right, none having died during the winter or spring. I put on supers the middle of June, so as to give them lots of room, as I don't want any swarming. I have had none so far.

J. H. Thomson, Britannia, July 16.—We are all in about the same boat. I had 140 colonies, spring count, and place the crop at 20 pounds per colony, and will have to feed heavily in September, as we have no fall flow. Others around here report no honey.

George Wood, Wesley, July 18.—This breezy upland country is not a first-class honey district. It is too windy, and too cool as a rule, but I struck it right this season. The bees were in a starving condition up to June 23, when the weather turned warmer, and for 3 weeks we have had the best flow from clover I ever saw in this district. The heavy rain on Monday, July 16, stopped the flow, and the season is evidently over. The nights are cool, almost frosty. I have not done any extracting yet. Last year I got only 25 pounds per colony. I expect at least twice, and possibly three times, that amount this year.

Chas. Blake, Donaldson, July 12.—Clover is still giving a nice flow, but it has not been much, as we have had a lot of rain. Basswood is just opening to-day, so I may have 40 or 50 pounds to the colony, spring count.

John Langdon, Kingston, July 14.—The outlook is not good here. I have taken no honey yet, but have tried to keep the bees together this year. Some are up 3 and 4 stories high. Some colonies in 10-frame hives have their frames ½ sealed over ; some not much. Basswood and thistle are just opening. I do not expect much.

Austin Walsh, Youngs Point, July 12.—I have 17 colonies, and have taken about 25 pounds of honey per colony, mostly comb. This is a very small crop. There are very few bees besides my own in this section.

F. W. Whiteside, Little Britain, July 12.—I have extracted from 4 yards to-day. I got 3 cans from 66 colonies ; yesterday, 5 cans from 75 ; Saturday, 2 cans from 60 ; and 3 cans from 90 in the home yard on Monday ; 1 can from 20 on Tuesday—or an average of 3 pounds per colony all around. Basswood may possibly yield once more, and buckwheat may yield this year again, but we would better be ready for the worst and feed barrels of sugar next September and October.

L. Wheeler, Brussels, July 14.—The honey crop here is a failure also.

J. K. Darling, Almonte, July 27.—Honey here is a short crop as well, but not quite a total failure. Not as much swarming with me as in other years. Colonies are strong.

E. A. Charlton, Parkhill, July 28.—Clover was a total failure here, and basswood fair.

E. F. Robinson, Victoria, July 25.—The honey crop in this section of British Columbia amounts to nothing. I can count on the fingers of one hand all the bee-keepers who have over 15 colonies each. As there is no organization among them it is a personal matter to get at their probable crop, but it is none too large, for the country is a poor bee-field. In the upper country of the mainland of British Columbia it is better, but it is often from 30 to 50 miles to a railway. Around

Victoria the season opened well, but a very bad freeze (2 inches of ice) came along in May when everything was growing and full of sap, so everything was long in recovering. The bees especially had a bad time of it. In fact, I never had seen bees so slow to build up; and as our springs here are windy, cool and dry, followed with dry summers, you can guess the result from a bee-keeper's standpoint. I should estimate the yield around Victoria at about 25 pounds per colony, spring count. My colonies, which are 28 miles out of town, will average about 45 pounds each from clover and from willow-weed, which they are now working on. Outside of California, I think Ontario can hold her own for quantity and quality one year with another.

Doctor Miller's
Question-Box

Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Probably Superseding the Queen

On opening one of my hives to-day for the purpose of substituting a new queen for the old one, I was unable to find any queen. The hive was a 2-story, and had sealed brood in both stories—more in the top than bottom, as a great deal of that in the bottom had hatched. Only 2 or 3 frames contained any unsealed brood or eggs, and those only a very little; but there were several queen-cells started, and as the bees were placed in a new hive July 9 (I think it was), not over a month ago anyway, I decided the old queen must have died. Was I right? Maine.

Answer.—Very likely you are right; but it's one of the cases when it's very hard to be positive. The fact that you could find no queen is not positive proof, for the most expert finder of queens may fail in some cases. You say, "Only 2 or 3 frames contained any unsealed brood or eggs, and those only a very little." That doesn't say positively that eggs were present, but from the way you say it, I rather understand there were at least a few eggs. If so, a queen was present not less than 3 days before. At any rate, she was there within 8 or 9 days, and the small amount of unsealed brood, if it was in all stages, points to a failing queen. She could not have been gone many days, and it is entirely possible that she was there when you failed to find her, for when a queen is to be superseded she generally remains until her successor emerges.

Building Up and Wintering a Nucleus—Introducing Queens

I have 8 colonies of bees—3 black and the rest Italians. I have also one 4-frame nucleus with a tested queen, just introduced. It has been robbed until there is about a pint of bees left. The queen has brood in patches as large as a hand on all 4 frames.

1. Can I build them up for winter? If so, how?

2. How can I unite them with one of the black colonies, saving the tested queen?

3. Is it possible to winter a 4-frame nucleus packed with chaff in an outside case on the summer stand?

4. What is the best and easiest way of introducing an Italian queen to a strong black colony now?

One of my colonies has stored 50 pounds of surplus honey, while the others have done nothing. Massachusetts.

Answers.—1. With 9 colonies to help there ought to be no trouble about building up, provided you can induce the robber-bees to let them alone. That must be your first care, and it will be well to avoid opening the hive except in the morning or evening at a time when bees are not flying, and to keep the entrance closed so that only a bee or two can pass at a time. The first part of the work is the hardest. The brood is now scattered in 4 frames, each frame, as I understand it, having a patch of brood as large as one's hand. Probably there isn't as much in the 4 frames as in a single frame well filled, and the bees could take care of it a good deal better if it were in one frame. So take out 2 of the frames, and put in the middle a frame taken from some other colony, the brood being nearly all sealed in the frame given. Perhaps there are not enough bees to cover so much brood, in which case you will take away all 4 of their frames, giving them the single frame filled with sealed brood, and 2 or 3 frames with more or less honey. A week later there ought to be enough bees so you can swap their single frame for 2 frames well filled with sealed brood, unless the brood was too young in the frame first given. You can help no little by having frames of sealed brood prepared in advance. At the time you give your first frame, put 2 frames filled with brood in an upper story over some strong colony, a queen-excluder between the 2 stories. A week later, as you will see, there will be little but sealed brood present. You can take this way of preparing all the brood you will want to use. To go back again, you first gave them a frame of sealed brood, and a week later you swapped this for 2 frames of sealed brood. Now, a week still later, you can swap these 2 for 3 filled frames, possibly for 4, being sure never in any case to give more than the bees can well cover. After you have got up to 3 or 4 brood, the way is easier. You can then, each week, without taking anything away, add a frame of brood, and you may give with it the bees adhering to it, for as it is in an upper story over an excluder, there is no danger of taking a queen, and, moreover, these bees in the upper story are mostly young bees with some degree of a feeling of queenlessness, so they are the best kind to give to a strange colony.

2. You can unite with a black colony by proceeding as advised in the answer to the previous question, using the black colony alone, and then after you have brought the nucleus up to 4 frames kill the black queen, 2 days later add 2 frames of brood and adhering bees, and in a day or more add the rest of the black colony.

3. It might succeed and it might not. Something depends upon the severity of the winter, and the sheltered location.

4. There is possibly no best way that is easiest, and no easiest way that is best. The easiest way I know of is to dump the queen in the hive without any ceremony, and sometimes that may succeed, but it certainly can not be recommended as the best way. Perhaps the best way is to put the queen, without any bees unless it be some of her own bees, in a hive containing frames of sealed brood, much of it so far advanced that the young bees are just emerging from their cells, keeping the hive closed for 5 days in a place where the brood will not chill, then putting the hive on its stand and giving for a time an entrance so small that only a bee or two can pass at a time. That, however, can not be called the easiest way. Taking the spirit of your question, I may answer that a good and easy way is to follow the instructions usually sent with queens when shipped: Remove the queen from the hive, and at the same time put in the hive the cage with the new queen, allowing the bees to release her by eating out the plug of candy. A little more safety may be secured by putting the cage in the hive a day or more before removing the old queen, not allowing the bees to have access to the candy till the old queen is removed.

Wood or Metal Splints and Wire for Staying Comb Foundation in Brood-Frames

I wish to ask in regard to staying foundation in brood-frames, under different conditions from your own—a deeper frame by 2 inches, and a warmer climate. Under these conditions do you think that your way of staying foundation would stand the test? I doubt if it would. Climatic conditions in the latitude of northern and central Illinois are quite different; hot spells are much more protracted in central Illinois, with much warmer nights. Hives that are kept well shaded will, sometimes, get too warm; in this condition the comb becomes soft and pliable, and loaded combs gradually incline to sag centrally.

Six years ago I adopted the "Draper-barn-Jumbo" hive—(I live in town and keep only a few colonies)—with horizontally wired frames. I now conclude that for this climate, and for deeper frames than the standard Langstroth, horizontal wiring is a complete failure; the strain comes largely on the light end-bars of the frame, and they "give," and the wires and comb naturally keep settling centrally when conditions favor.

It spoils a brood-frame to get out of shape; it is fortunate that some comb foundation is made with a full-size base, allowing for some contraction by sagging. Another trouble with sagged comb is that the bees remodel it into drone-comb in the lower corners. How little drone-comb will satisfy a colony's natural instinct for rearing drones, and prevent remodeling worker-cells?

If I were starting anew, I think I would adopt the standard depth Langstroth frame in preference to the "Jumbo."

A word more in regard to your manner of staying foundation: I surmise that if the splints were fastened to the top-bar of the frame, the comb would stand reasonable conditions in any climate.

I have been thinking that it would work to use zinc splints (black iron would answer just as well, though harder to work); these metal splints could be more readily fastened to the top-bar than the wooden ones. Propolis is a very valuable cement—far superior to pure wax; bees reinforce all their work with it. When warm it has strong adhesive power, much greater than wax.

Southwestern Illinois.

Answer.—I have never tried foundation splints in anything deeper than the Langstroth frame, but I see no reason why they should not work with entire satisfaction in a frame 2 inches deeper. The lower part would be the same in either case, and increased depth could hardly make any difference in the upper part, for the splints do not allow the weight of the lower part to affect the upper part.

As to difference in temperature, we have hot days here, the thermometer keeping uncomfortably near 100 degrees (98 above zero the day I'm writing this); but the bees have a way of controlling the heat in the hive, so that in the brood-nest the temperature is much the same whether the outer air is 50 or 100. Yet before the days of wiring I've had combs melt down in shade so dense that the sun never shone on the hives, the dense shade preventing ventilation.

The drone-comb at the lower corners hardly comes from sagging, for you will readily see that at the lower corners the tension would be the same in a frame 2 inches deep as in one 12 inches deep. It is more likely that the drone-comb is built in the space at the corners that the foundation does not fill. Still, if the foundation should sag enough at the upper part to allow the lower part to strike the bottom-bar and double over, the bees would have a fair chance to build drone-cells on the convex surface—a chance they would be pretty likely to improve. With foundation splints this could not happen.

The question as to just how much drone-comb would satisfy a colony is not an easy one to answer. Under certain conditions a colony might build 20 percent of its comb with cells of drone size, whereas the same colony might not build a cell of drone-comb if its frames were filled with worker foundation. I have been in the habit of filling my frames entirely full of worker foundation, and whether the bees were satisfied or not I do not know; but I do know that they have built no drone-comb in such frames.

I question whether there would be any gain in fastening the splints to the top-bar. Mine are not so fastened, and I have never seen the slightest tendency to pulling down.

I'm not sure what you would expect to gain by using metal splints. It would be much the same as using wire, and unless the metal should be pretty heavy it would not have as much stiffness as the wood.

Reports and Experiences

Poor Honey Season—Drouth

This has been a poor honey season. My colonies were very strong and they gathered quite a great deal of honey. We have had very little rain since early in June. It is the worst drouth I ever knew. JOHN KING.

Smith's Creek, N. B., Aug. 18.

Not Over Half a Crop

I brought to Washington 4 colonies of bees from Minnesota the fall of 1903. In 1904 they averaged about 70 pounds of honey per colony; last year about 90 pounds, while this year we will not get over half a crop, as the honey season is practically ended. We are not troubled with swarming, for in 3 summers we have had only about 30 swarms altogether, with from 70 to 100 colonies in the yard. CHAS. W. SAGER.

Belma, Wash., Aug. 9.

Light Honey Crop

Bees were on the point of starving the latter part of June, owing to too much rain. The honey crop therefore was light. There will be no fall flow to speak of.

JOHN J. PETERS.

Granite Falls, Wash., Aug. 9.

Bee-Season All Right

I have no fault to find with the bee-season this year, as it is the best here since 1897. We had honey from fruit-bloom, but skipped clover on account of rain, and basswood showed itself, which was followed by sumac, with a very long season. Now buckwheat is blooming, and the bees are working on it the second time in 15 years. The crop is first-class so far. The asters will be coming on within a week, and they usually yield well. That will finish the honey season.

South Salem, N. Y. T. H. KEELER.

Getting Comb and Extracted Honey from the Same Colony

I have been somewhat interested in the paper read by Mr. Jas. A. Green before the National Bee-Keepers' Convention, and the discussion following it. His plan is one stumbled on by me a few years ago, and I am better satisfied the longer I use it, and it is the only one I succeeded in getting any honey from the last 2 years, and that was extracted. It is a consolation to find a specialist has been using it for years. I have been using 5-inch extracting and 4½-inch section supers promiscuously for 3 years, putting the first on as soon as the bees seemed to need them, and the latter later under them. Two years ago the honey was of such a character that it was not worth putting into sections—honey-dew, and not fit for table use.

Last year was another poor year, but the honey was of fair quality. The result was a few finished sections, but many unfinished, and many more unfinished or not commenced. This year, so far, I have twice as much as I got the two previous years, and if the flow does not stop too suddenly I think I shall get most of my sections finished, and finish up with extracting-frames; and if not ripened I will extract and feed back. But the trouble is to know when the flow is going to stop. I have been puzzled to know where they were getting their honey for the last month, though I have done my best to find out. If Mr. Dadant's oak theory does not solve it, it is still a mystery with me. I have examined the oak, but have found no indications of honey there. Perhaps the time for that is past. The white clover was abundant and they went to work on it, but soon quit it. The basswood is now in bloom, but they don't seem to be going for it very strongly. It did not seem to increase their working force much.

Dr. Miller does not get more unfinished sections than he wants for the next year for starters. I don't know how he keeps them from candying. I have had but little swarming, and one case out of the ordinary. I have my queens' wings clipped, and when the swarm came out I found the queen dead, and supposed she was killed in the swarming. I looked for them to swarm again (the swarm had gone back), but the next day they came out with a queen, alighted, and I hived them. I would like to have Dr. Miller's diagnosis of the case. Is it a case of supersedure?

Three years ago bees were starving between fruit-bloom and white clover, yet it was the best honey year we ever had, and we got nearly as much honey after basswood as before. So we see it is hard to predict the future. The unexpected is likely to happen at any time. J. C. ARMSTRONG.

Marshalltown, Iowa, July 9.

CONVENTION NOTICES.

The Southern Bee-Keepers' Association will meet in Atlanta, Ga., Oct. 11 and 12, 1906, during the State Fair, on the Fair Grounds. All interested are invited to attend.

JUDSON HEARD, Sec. and Treas.

J. J. WILDER, Pres.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

The Western Illinois Bee-Keepers' Association will meet at the Court House (County Court room) at Galesburg, Ill., Thursday, Sept. 20, 1906. We have had such a very poor honey year that many are discouraged, but remember we have all the more need for a good, lively convention. The dry year of 1901 was followed by two exceptionally good years for bee-keepers. None of us was ready for them. Let's get all the information we can, and get ready for the good years that are coming. Messrs. C.P. Dadant, George W. York and J. Q. Smith have promised to be with us, and you will all be made welcome if you come. Don't miss this convention. Come and bring your wives with you. Meeting begins at 9 a.m. and lasts all day. J. E. JOHNSON, Pres.

E. D. WOODS, Sec.

Missouri.—The annual meeting of the Missouri State Bee-Keepers' Association will be held at the Circuit Court Room at Marshall, Mo., Oct. 2 and 3, 1906. All bee-keepers are invited to attend and to join the Association. This is going to be an important meeting, as steps in preparing for the canvass of the State in the interest of the foul-brood bill to be brought before our Legislature at its session next January are to be considered. Elaborate preparations are being made by the Saline County Bee-Keepers' Club for the reception of bee-keepers, and badges are being prepared, and will be sent to all those applying for them to the undersigned Secretary, or to Mr. M. E. Tribble, at Marshall, Mo., Secretary of the Saline County Bee-Keepers' Club, to facilitate the reception committee in taking care of the bee-keepers on arrival of the trains. Hotel accommodations can be obtained at reasonable rates, or board and lodging can be secured at 50 or 75 cents per day at private boarding houses, for those who will write to Mr. Tribble, asking him to arrange for them. There are over 41,000 bee-keepers in Missouri. Let there be 1000 of them at Marshall, Oct. 2 and 3.

ROBERT A. HOLEKAMP, *Sec.*

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Choice Queens

Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans — Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906.

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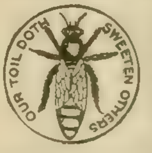
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Plenty of these queens for you. Get good stock. A request will bring cage containing sample workers of any race we have.

Requeen now and have plenty of early brood next spring.

Italians and Carniolans—Untested, 75c; 6 for $4. Tested, $1; 6 for $5.

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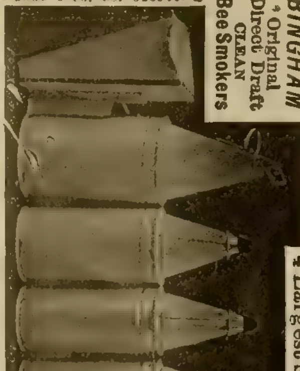
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OTISVILLE, PA., Jan. 18, 1904.

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Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8.00	$ .95	$ 5.00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10.00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
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Straight 5-band Golden Breeders	$10.00
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1-frame Nucleus (no queen)	$1.50
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Or, 1 Queen with the Weekly American Bee Journal for 1 year—both for $1.40. Or, we will send one **Free as a Premium** to any subscriber (whose own subscription is paid up at least to the end of 1906), for sending us $1.00 and the name and address of a **NEW** subscriber for one year.

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> Marion Co., Ill., July 13, 1905.

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We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

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Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS** now. Write to-day. Address,

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— Two in a Case. —

The cans are just as good as new, and we are offering them for quick sale at the following prices:

In lots of 5 cases of 2 in a case....50c a case
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Is what we are making for our customers.

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We carry a full line of **SUPPLIES**. Ask for Catalog.

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Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
17A26t 138 N. Pleasant St., NORWALK, OHIO

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Seven heads Turnips, Motherwort, Catnip at 5c per package, postpaid; 24-lb. Shipping Cases complete with glass, 14c each.

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New London, Wis.

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BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen.....$	.65
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" Select Tested Queen	1.10
" Breeding Queen.....	1.65
1-comb nucleus (no queen)	.80
2 " " "	1.40
3 " " "	2.00
1 Un. Caucasian Queen,	1.25
1 Tested " "	1.75

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

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20Atf SABINAL, TEXAS.

Moore's Long-Tongues and Golden Queens

Select Untested, 75c; 6 for $4; 12 for $7.50. Tested, $1.25; 6 for $6; 12 for $11. Best Breeders, $2.50. Safe arrival guaranteed,

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BY RETURN MAIL

the remainder of the season at the following prices:

Untested................	$ 1.00	$2.50	$ 9.00
Select Tested............	1.50	4.00	14.00
Tested (1905 rearing)....	2.50		
Select Breeding	5.00		
Extra Select Breeding ...	10.00		

NOW IS THE TIME TO REQUEEN.

Borodino, Onon. Co., New York
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Queens Italian Queens

Golden and Leather-Colored

One Untested Queen, 50c; 6 for $2.75. One Tested Queen, 75c; 6 for $4.00. Safe arrival guaranteed.

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R.F.D. No. 4, FT. JENNINGS, OHIO.
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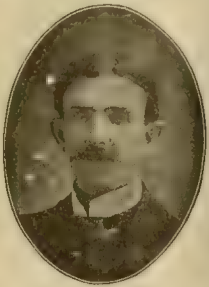
Special Summer Tourist Rates

via Nickel Plate Road, to Canadian and New England points. Fifteen day limit one fare plus Two Dollars from Chicago; thirty day limit, one fare plus Four Dollars from Chicago. On sale September 5th and 19th. For reservation of sleeping-car berths, etc., write or call at City Ticket Office, 107 Adams Street, Chicago. 26—35A3t



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Everything used by Bee-Keepers.
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GOLDEN AND LEATHER-COLORED ——ITALIANS——

Price of Golden Queens. Before July 1st: Untested, $1 each: 6 for $5; 12 for $9. Warranted $1.25 each; 6 for $7; 12 for $13. Tested, $1.50 each. Select Tested, $2. After July 1st: Untested, 75c each; 6 for $4; one dozen, $7. Warranted Tested, $1.25 each; 6 for $7; one dozen, $13. Tested $1.50; Select Tested, 2; Breeders, $5. Caucasian Queens will be ready to mail July 1st; Untested, $1 each; 6 for $5. Warranted Tested, $1.40 each; 6 for $8.

We have three yards—two Italian and one Caucasian—and mean to meet the demand of the trade. Prices of Nuclei on application.

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Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**

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New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

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to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

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At Root's Factory Prices

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White Clover Extracted and Comb. Mail sample and state lowest price expected, delivered in Cincinnati. We pay cash on delivery.

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI OHIO
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

Chicago, Aug. 6.—There is now offered some good lots of comb honey, and while the trade in it is not active, it is taken at 15@16c for fancy, 14@15c for No. 1, 12@13c for fancy amber, and 8@10c for fancy dark. Extracted is slow of sale with prices according to quantity and quality. White extracted, 6½@7½c; amber, 5½@6½c; dark, 5@5½c. Beeswax, 30c.
R. A. Burnett & Co.

Toledo, Aug. 20.—The market on honey has not changed much since our last quotation. Bee-keepers seem to be holding their goods expecting large prices. Fancy white comb brings in a retail way 16@17c; No. 1, 15@16c, with no demand for dark. Extracted white clover, in barrels and cans, brings 6½@7c; but very little has been offered as yet. Beeswax, 26@28c.
Griggs Bros.

Indianapolis, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, Aug. 9.—Advices from different points are rather conflicting in regard to the honey crop this season, and, consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. Wm. A. Selser.

New York, Aug. 18.—There is a good demand for new crop comb honey, but arrivals are very small as yet, and will continue so for a week or two to come. We quote fancy white at 15c; No. 1 white at 14c; No. 2 white at 12c; it is too early as yet for dark or buckwheat. Extracted is in good demand at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Southern, common average grade, 50@55c per gallon; better grades at 60@65c. Beeswax firm at 30c.
Hildreth & Segelken

Cincinnati, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14¼c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¾c. Beeswax, 30c.
C. H. W. Weber.

Kansas City, Aug. 20—The demand for comb honey is improving, but receipts light. No new extracted in the market. We quote No. 1 white 24-section cases, $3; No. 2 white and amber 24-section cases, $2.75. Extracted, 5½@6c. Beeswax, 25c. C. C. Clemons & Co.

Denver, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
The Colo. Honey-Producers' Assn.

Cincinnati, Aug. 18.—Fancy and No. 1 comb honey find ready sale at 14@15c. Shipments arriving daily. Lower grades are not wanted here at any price. There is a good demand for extracted honey; amber in barrels and cans, 5@6½c; white clover, 6½@8c. (These are our selling prices.) Beeswax, 28@30c.
The Fred W. Muth Co.

Jelly Tumblers at Reduced Prices

YOU CAN DOUBLE YOUR MONEY from your honey crop by using JELLY-TUMBLERS OF CORRECT STYLE, as containers and keeping your market supplied. No other glass so economical. Write for quotations. **OREL L. HERSHISER,**
301 Huntington Avenue, - BUFFALO, N. Y.
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GREATEST ⁂ POLITICAL ⁂ QUESTION
OF THE DAY, YOU MUST READ
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WILLIAM P. F. FERGUSON
Editor and Publisher
400 West 23rd Street, NEW YORK, N. Y.
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65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

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To buy for cash, Fancy Comb and Extracted Honey. **R. A. HOLEKAMP,**
31A13t 4263 Virginia Ave., St. Louis, Mo.
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HONEY AND BEESWAX

When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 South Water St. Chicago, Ill.

WANTED

To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping-cases; also extracted honey. We are cash buyers, and remit on receipt of goods.

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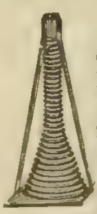
Queen-Clipping Device Free!



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25—35A3t

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46th Year SEPTEMBER 6, 1906 Number 36

AMERICAN BEE JOURNAL

S. N. Jenkins and Son at Southwest End of Bee Yard.

Mr. and Mrs. Jenkins, with Swarm.
(See page 751)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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We Manufacture the Finest, Whitest No-Drip, Basswood **Shipping-Case** on the market to-day. Covers and bottoms are of **One Piece**. Everything is **Polished** on both sides, and a better case cannot be had at any price.

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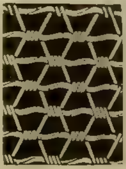

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A Piano good enough for these musicians, is good enough for any one

Prof. E. O. EXCELL
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It is still easier for us to sell an Epworth piano after we get a nice one in some home where we can refer to it as a sample of our work.

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These people would be glad to see an Epworth in the home of some neighbor and to learn from him about the satisfaction *and the saving* of dealing direct with us, the makers.

Now, here is where you can help us and we can help you.

We can help you by giving you a special reduction on a fine Sample Epworth Piano for your home and to which we can refer prospective buyers.

You can help us by showing your beautiful Epworth piano to your friends and neighbors, and by sending us the names of those who would like to receive our catalogs.

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Williams Organ and Piano Company
57 Washington Street, Chicago, Illinois

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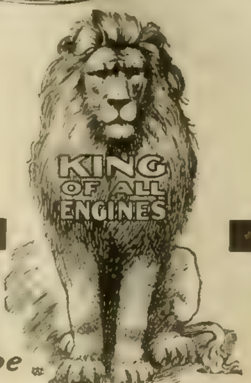

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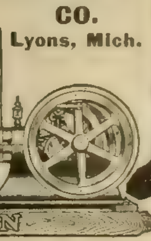
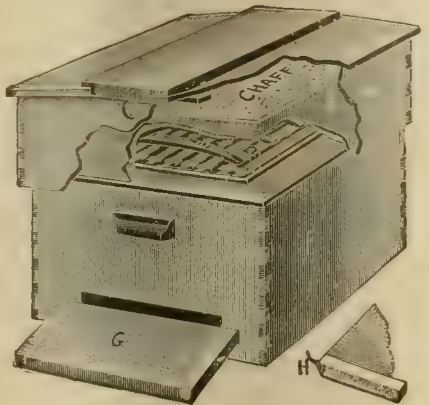
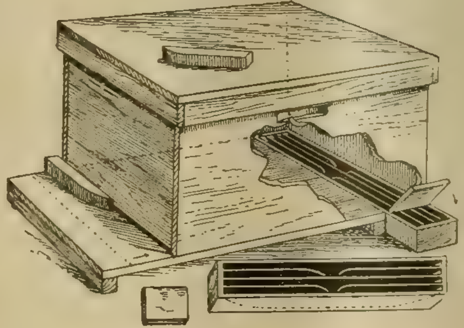


PREPARE FOR WINTER





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THE A. I. ROOT CO., Medina, Ohio

AMERICAN WEEKLY BEE JOURNAL

L. L. LANGSTROTH
CHAS. DADANT

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

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GEORGE W. YORK, Editor CHICAGO, ILL., SEPTEMBER 6, 1906 Vol. XLVI—No. 36

Editorial Notes and Comments

Introduce Fresh Blood Now

A question often asked by the beginner runs something like this:

"I want to buy an Italian queen to Italianize my bees; when is the best time?"

That question can not be answered by giving a certain date as the best time. If the question be asked in December, the answer may be, "As soon as the bees are at work on fruit-bloom." If asked in the summer, "Any time while bees are still at work in the fields." And circumstances may be such as to modify either answer.

To the bee-keeper who desires to buy a queen from which to rear other queens to Italianize his apiary, or to improve his stock, it is safe to say: "You can wait till next spring, and that will be very much better than to wait till next fall; but it will be very much better to buy this summer or fall than to wait till next spring." This for more than one reason.

The introduction of a queen in spring is likely to interfere more or less with the work of a colony at a time when such interruption will tell on the work of the entire season. At or near the close of the harvest such interruption amounts to nothing.

Queens reared very early in the season are not so reliable as to quality as those reared during the honey-flow and the heat of summer. Of course, this has no bearing in the case of a queen reared in the summer of the preceding year; but such a queen will cost more, being a specially tested queen.

Not only is a queen reared well on in the season likely to be better, but prices are lower then.

If a queen is introduced now she will be in a fully settled colony next spring, ready to have queens reared from her just as early as it is advisable to rear queens.

For these reasons it is well for any one who desires to have a new queen next spring, to purchase that queen before the present season closes—perhaps the sooner the better.

◆

Bee and Honey Exhibits

Perhaps there is nothing better as a developer of the home honey market than to make exhibits of bees and honey at local fairs, or even on the streets of any town or city. We once saw a bee-keeper with an observation hive with bees on a vacant lot in a certain city. He was located near a busy street-car line where the passengers had to change cars. Quite a number of them, of course, were attracted by the exhibit of bees, and as the bee-keeper had a good supply of honey on hand, he made many sales. He also distributed literature telling about the value of honey as a food. Of course, all the literature contained his name and address, as did also the labels on the jars of honey. On that particular occasion he was handling only extracted honey. Perhaps if he had also offered comb honey, his sales would have been still larger than they were.

It is also a good idea to give "sample tastes" of honey to the people. This is easily done by having some extracted honey in a dish, and with a teaspoon dip a little on a circular cracker about 1½ inches in diameter. By putting about a half teaspoonful of the honey on the cracker it can very easily be handed to the prospective customer, who will very quickly drop it into his mouth and soon be smacking his lips. It usually "tastes like more," and often results in sales, where without the "sample tastes" few sales would be made.

There is scarcely anything else that compares with the observation hive containing bees to attract attention and interest the people. Here in Chicago there are 11 vacation schools that run 6 weeks during the months of July and August. We were invited this year to visit these schools with an observation hive, and talk to the children about bees and their habits. We also spoke on one occasion to the children gathered together at a religious camp-meeting held near Chicago the last week in July. We managed to visit 6 of the vacation schools, and our audiences numbered from 100 to 600 in each school. All the children, as well as the teachers, were apparently greatly interested. After talking 15 or 20 minutes an opportunity was given for questions, which were answered so far as possible.

Sometimes we would begin by asking how many of those present liked honey. In almost every instance practically every person present raised the hand. Of course, we took special pains to counteract the story that there was any manufactured comb honey in the markets. We also dwelt on the value of honey as a food, and while the attendance of the vacation schools is made up mainly of the poorer classes of children, we have no doubt that even they will try to induce their parents to use more honey.

At all exhibitions of bees and honey, whether at fairs or on the streets, there should be some one in attendance who is able to give the people quite a little talk on the subject of bees and honey. It is well also to allow an opportunity to ask questions. It will be surprising how interested nearly everybody is, and what good questions they will ask, and occasionally some very amusing ones.

An observation hive, if carefully handled, will last a lifetime. It can be used every year, and we believe it is a method that should be employed more extensively, whether in the home or city honey markets.

◆

Attend the National Convention

As most of our readers know, the next convention of the National Bee-Keepers' Association is to be held in San Antonio, Tex., Nov. 8, 9 and 10, 1906. All bee-keepers who can do so will undoubtedly make a great effort to be present, not only for the sake of attending the convention, but for their general good.

We recently found the following paragraph in the Orange Judd Farmer, which, although not on bee-keeping, still is pretty good advice for bee-keepers, as well as everybody else:

> Traveling is a great educator. Of course it costs money, but every person should aim to travel some, even though it should not be much. The aim should be to travel in the line of one's needs; that is, to travel so that it will benefit the individual in the line of his work. The farmer, as a rule, does not travel much. Because he does not, he is apt to overestimate the importance of things that are near. He is also apt to overestimate the importance of his own system of doing things. About the only remedy for this circumscribed vision is to do a little traveling. Even going to a neighboring county may let in much light. Going to a neighboring State may let in more. The more light that thus comes in, the wider is the horizon of vision. Each added piece of information helps to make a broader man. Those who can, therefore, should travel a little. Money judiciously spent in that way is not lost.

There is no doubt that getting away from home and seeing the country, besides meeting other people, are good things for any one. Time and again, bee-keepers have told us that they felt well repaid for attending conventions, no matter how far they had to go from home. It certainly gives one a broader outlook to be acquainted with more of the world than lies simply around home. A bee-keeper is no exception to this rule. There are many good things said at conventions that never would appear in print. There are also many conversations between sessions of the convention that are invaluable. There are acquaintances formed and experiences exchanged that can not be gotten in any way except by attending the conventions.

Unless one gets away from home and sees other parts of our great country, he is likely to feel dissatisfied, and thinks he would prefer to live somewhere else than just where he is located. We think we are safe in saying that after seeing the country through certain parts of New Mexico and Arizona, on the way to the Los Angeles Convention, there was more than one bee-keeper in the region of Lake Michigan who was better satisfied than ever with his own home and surroundings. It is also a nice thing to see other parts of the world, so far as possible, as it extends one's vision, and gives him new ideas.

Personally, we have never been further south than St. Louis, and are looking forward with much pleasure to the trip to San Antonio. We have heard great things from that section of the country, and have long desired to see what it looks like, and also to meet as many as possible of the practical bee-keepers in that region. The South ought to be about the best country for bees in the United States. They have the longest blossoming season, and no wintering question. Very likely during the next few years there will be greater strides made in bee-keeping in the South than in any other part of the country. The business is pretty well developed in the North, and as more Northern bee-keepers push into the South, and as the people already there become more interested in bee-keeping, the industry will receive a great impetus.

The meeting of the National Bee-Keepers' Association in San Antonio will undoubtedly be a great event for the bee-keepers in that part of the United States. It should be used to create a new interest in bee-keeping there, as it is the first time the National Convention will have met in the far South. We hear of thorough preparations being made by Texas bee-keepers to take care of the convention. They certainly will do their part toward entertaining, and seeing that it is a great meeting. It is none too early to prepare for attending it. The weeks slip away so rapidly that the time to start will be here very soon. It is hoped to assemble enough bee-keepers in Chicago to take a special car to San Antonio. The round-trip rate will be $25 from here. The cost of a berth in the tourist sleeper costs less than $5 one way, and it will take two nights to make the trip. Those who were fortunate enough to be in the car going to Los Angeles from Chicago, in 1903, will certainly want to go in the special car to San Antonio. It is much more enjoyable to go on such a trip with others interested in the same business.

We will be pleased to announce in the American Bee Journal the names of all who will go in the special car, starting from Chicago Nov. 6. The exact hour of leaving will be announced later. We will be pleased to reserve berths for all who will let us know in time. It will go over the Frisco System.

◆

Pollination of Cucumbers

Farmers' Bulletin No. 254, issued by the United States Department of Agriculture, is devoted to cucumbers. It tells all about how to grow them both outdoors and indoors; also as to preparing them for market. Under the directions for forcing-house cucumbers it gives the following paragraph, which mentions the aid of bees in pollinating blossoms:

> "Under greenhouse conditions and at the time of year that the cucumber is forced it is necessary to provide for pollination. In small establishments this work can be done by hand. The staminate blossoms are removed, the petals turned back so as to allow the anthers to project, and the pencil thus produced is then thrust into a cup of the pistillate flower. In large establishments where hand-pollination is out of the question, a colony of honey-bees is placed in each house to accomplish the work."

It is commonly known that growers of early cucumbers in greenhouses purchase colonies of bees in the spring for use in pollinating the cucumber blossoms. There are many such cucumber-growers around Chicago, and some bee-keepers sell quite a number of colonies of bees to them every spring. Evidently the work done by the bees is far ahead of anything attempted by hand-pollination.

◆

Pure 3-Banded Italians Ahead

Recently Wm. M. Whitney, of Lake Geneva, Wis., called on us, and in speaking about the work of various strains of bees this season, he remarked that pure Italians had produced better results in surplus honey than his mongrels. Since he returned to his home he has investigated closely, and wrote us as follows under date of Aug. 23:

> You remember that when there I said something about the work of my bees in the production of surplus honey. The facts are, that all the surplus I have gotten has come from my thoroughbred 3-banded Italians, and not a section from the mongrels, which have had the same treatment so far as it was possible for me to give; with colonies so strong that 60 percent of them swarmed while being nicely shaded, but only 9 percent of the Italians swarmed, and all standing in the sun. In fact, I tried to induce some of the latter to swarm, as I wanted to get queens from them, but had to force the building of queen-cells by division. Now, this has been my experience time and again. I do not want anything better than the 3-banded Italians properly bred. I do not believe there is anything better.
>
> Wm. M. Whitney.

◆

Queen-Cage Candy—Important.

The following paragraphs are taken from Gleanings in Bee-Culture for Aug. 15:

> In selecting an extracted honey to use for making a queen-cage candy, it is *very* important that the source of that honey be known. If unknown it should be thoroughly boiled to disinfect it from any *possible* germs of black or foul brood. One boiling may not be sufficient. Boil it one hour and let it stand two or three days, and then boil again another hour. This is better than boiling three hours all at one time.
>
> One can readily see, if he will reflect a moment, how foul brood *might* be spread through the agency of bee-candy. Most of the mailing-cages now are self-introducing by the bees eating out the candy and finally releasing the queen. Suppose this candy is contaminated with germs of black or foul brood. The chances are that the colony to which this queen was introduced would soon show symptoms of disease, even though the colony or bee-yard whence this queen came might be perfectly healthy.
>
> This matter is so important that I would respectfully suggest that our apicultural exchanges bring the matter before their readers. In the meantime the purchaser of the queens, if he wishes to be on the safe side, taking no risk, may recage the queen received in the mails, introducing her by means of bee-candy made of honey out of his own yard.

We are glad to help pass along the above caution. As it is the season when many are requeening extensively, the advice is very opportune. Too much care can not be exercised in the matter.

◆

Do Bees Puncture Grapes?

The article by Mr. John Kennedy, page 757, bears internal evidence of the desire to be entirely fair, even to the acknowledging of one's self in the wrong. It reminds of the story of the man standing on the ground looking at a mud-and-stick chimney being built. The man on top called to the man on the ground, "Is it plumb?" Promptly came the answer, "Yes, it's plumb, and *a leetle more.*" Mr. Kennedy is fair, "*and a leetle more.*"

Here is the case before us: The grapes were punctured; the birds were driven away, and thus not guilty; bees were there in plenty, and so guilty.

Suppose Jones on trial for theft: A coat hung on a nail in the evening is missing in the morning. An alibi is proven for Smith and Brown, hence their innocence; but Robinson swears he saw Jones in the room where the coat was in the evening. Would any jury convict Jones of theft? No; they would say: "Yes, you saw Jones in the room; but did you see him take the coat?" Mr. Kennedy, did you see the bees pierce the grapes?

To be sure, if there were positive evidence that excluded all other agencies, then judgment might be passed upon the bees. But there is no such evidence. There is the possibility of night attack, as given on page 653.

Also, the "early bird" may have gotten in its work while Mr. Kennedy was still in bed.

If bees are the culprits, it ought not to be a difficult thing to have *positive* evidence. When they are upon the grapes by the thousand, present to them a sound cluster, or uncover a cluster that has been covered with a paper sack. Then watch and *see* them pierce the grapes—if they are guilty. Or, if that be too difficult, watch awhile to see that nothing but grapes can be in the case; then brush off the bees and see whether the grapes are punctured. Bees have been tried more than once in this way, and their innocence established. A trial by Mr. Kennedy is likely to establish it more firmly.

QUIT KICKING

Quit kicking just because you think
  The old world's going wrong;
There's always something somewhere
  Of happiness and song.
Besides, you never made the world;
  Life's scheme is not your own;
Quit kicking; take what happens, and
  Just reap what you have sown.

Quit kicking. When the pay is bad
  Remember what you've lost
Some other fellow's gained; and so
  In summing up the cost
We find that in the end we know
  What other men have known—
Results? We take them as they come—
  We reap what we have sown.

—*Successful Farming.*

◆

Miscellaneous News-Items

National Nomination Notice. — We have received the following from General Manager N. E. France, of the National Bee-Keepers' Association:

Each member of the National Bee-Keepers' Association is hereby requested to mail to the office of the General Manager, on or before Sept. 29, 1906, nominations of candidates for offices now filled by the following:

C. P. Dadant, President; Geo. E. Hilton, Vice-President; W. Z. Hutchinson, Secretary; N. E. France, General Manager; and Directors: Jas. A. Stone, G. M. Doolittle and R. A. Holekamp.

N. E. FRANCE,
Platteville, Wis. *General Manager.*

Every member of the National should accept the foregoing invitation to make nominations for the offices named. If not satisfied with the present officers and their management of the Association's affairs, here is your chance to nominate and elect those that you think would do better. Of course, each member has the last Annual Report with the names of all the members at the time it was published, and from that list selections can be made.

◆

Prof. A. J. Cook, of Claremont, Calif., who has been spending a year in Germany, called to see us on Aug. 25, when passing through Chicago on his return trip. Mrs. Cook and daughter are still in Germany, and expect to remain a year or so longer. Prof. Cook is looking and feeling very well indeed. Even though he is just 64 years old, he hasn't a grey hair, and seems as young as a man at 40. His naturally buoyant disposition combined with Southern California climate seem to have kept him young in looks and actions. No doubt, also, his trip across the "briny deep" helped him physically, and his stay and study in Berlin brightened him up intellectually. Prof. Cook is a delightful conversationalist, and has abounding faith in everybody and every good thing.

◆

The Jenkins' Apiary, shown on the first page, is located in St. Paris, Ohio. Mr. Jenkins writes as follows:

In June, 1902, I walked out in my orchard and saw a large swarm of bees hanging on a limb. I let them hang until nearly sundown, and none came to claim them, there being no bees close to me. Having no experience with bees I did not know what to do but to secure a box and try to get them into it. Being in the merchandise business, I went to the store and secured a nice box, and cut the limb off and laid it and the bees down in front of the box. They then and there took possession and went to work. Thereafter my leisure hours were spent in watching them work.

The next spring I transferred them to a hive made by myself. They gave me two nice swarms the same year. I wintered them on the same stands, but with a shed over them. I now have 20 colonies. I never take from them but one super containing 24 sections of honey, and let them have the balance to winter on.

I sell all my honey without any trouble at home for 15 cents a section. I get my instructions from several bee-books and bee-papers. S. N. JENKINS.

◆

Gen. James F. Smith, the new Governor General-elect of the Philippines, who takes his position Sept. 15, is a friend of one of the prominent bee-keepers of California, having been brought up on a farm in Sonoma Co., Calif. It is just a possibility that the much-talked-of bees of the Orient — Apis dorsata—may be landed on the Pacific Coast first, if Mr. Benton, who is now in the Far East, does not soon succeed in landing them in Washington, D. C.

Bee-Keeper vs. Saloon-Keeper.—One of the best paragraphs we have ever read on the anti-saloon question is this from the Modern Farmer and Busy Bee:

"If the saloon-keeper is engaged in a legitimate business and wants to deal fairly and honorably with his fellow-men, why is it that he defies public sentiment and disregards the wholesome and reasonable laws of the land? Why is it that he is the enemy of every officer, from the president down to a constable, who tries to enforce the laws which have been enacted by the people to regulate the liquor-traffic? The simple truth of the matter is that he is engaged in a business that depends upon the depravity and vices of humanity for its perpetuity. The saloon is not a necessity to anybody, and no one becomes a patron of it until he has developed an abnormal appetite, for no one is born with a thirst for such things. If a saloon is a business proposition, like other business propositions, why not close it at 6 o'clock on Saturday and let it remain closed until Monday morning?"

But one may say after reading the above, "I don't see what that has to do with bee-keepers." Well, it has at least this much: The laboring class of this country are the people who support most of the saloons, and they are the class that buy most of the honey—or at least would do so if they didn't spend any money for liquor, which is thus worse than wasted.

It would be to the honey-producer's interest to have the saloons closed not only from Saturday 6 p.m. till Monday morning, but all the rest of the time during the week. The open saloon is a curse—yes, a crime, and a criminal-producer. Bee-keepers and all other honest and moral persons ought to help close it tight, and forever.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Sweet Clover Seed

DEAR MISS WILSON:—As a sister bee keeper, and in search of sweet clover seed, I thought I would write you, as I saw the picture of Dr. Miller standing amid the sweet clover in the American Bee Journal of July 26. Do you have the seed to sell, or know any one that does? I have been watching for advertisements for a year, but have failed to see it advertised. I think sweet clover would be a great help to us, as our bees are always idle after white clover is gone, for quite awhile. We had a very good honey season through the white clover harvest, but I am afraid the drouth of July will hurt the sumac yield, which is now in bloom. It is next to white clover for fine honey in this locality. We have 9 colonies of bees, and I have done all the work with them myself.

I always enjoy reading the American Bee Journal, especially the Sisters' department. MRS. OTTO HOTZE.
Monroe Co., Ind.

We have no seed for sale. Turn to page 627 and you will find an advertisement of yellow sweet crover seed for sale by one of the sisters—Mrs. A. L. Amos. Whether she has white sweet clover seed or not I do not know. Advertisements of the kind seem more scarce than usual this year, and the seed is said to be more scarce.

The yellow sweet clover blooms from 2 to 4 weeks earlier than the white. The white sweet clover is generally of more value where white clover abounds, as it comes in at the close of the white clover harvest; but in some places where there is no white clover to speak of, as in the locality of Mrs. Amos, the yellow is of more importance. We have been in the habit of thinking that we didn't care anything for the yellow kind, but this year, when the common white clover was a dead failure, it would have been a big thing for us if we had had the yellow sweet clover.—[If any one has sweet clover seed to sell, it would seem a good thing to offer it in the advertising columns.—EDITOR]

* * *

Uniting Colonies—Sowing Sweet Clover—Queen-Traps

1. I have a few colonies of bees which I do not wish to keep over winter. The comb is old, black, and almost or quite immovable from long neglect; and yet it seems a pity to destroy the bees. Can I unite them with other colonies? If it can be done, please give directions very plainly so that an amateur will have no trouble in understanding.

2. I wish to sow a small patch of sweet clover. Should it be sown in the spring or fall? If the former, will it blossom the same season?

3. Is the "A B C of Bee Culture" suitable for a beginner? I have 3 or 4 years' experience, and the little I have learned looks small in comparison with all that I need to learn.

4. Do you approve of queen-traps in swarming-time? Do they hinder the free coming and going of the workers?
Erie Co., N. Y. A SISTER.

1. Let A be the hive with immovable frames out of which you wish to get the bees, and B the hive into which you wish to put the bees. After blowing a little smoke into the entrance, turn A upside down and place over it any empty box of suitable size with mouth downward. With two rather heavy sticks pound upon the sides of the hive, and keep pounding at intervals until all, or nearly all, the bees are in the upper box. (If the box does not fit well over the hive, and the bees seem inclined to fly at you when you begin drumming, treat them to a little smoke.)

After blowing a few puffs of smoke into B, lift the box of bees from A, gently dump them in front of B, and let them run in. If there is any fighting after they have entered, smoke them until they behave. Now put a queen-excluder over B, and set A over this. The bees will go up to take care of the brood, but not the queen; so no eggs will be laid above, and in 3 weeks all brood will be hatched out, when you can dispose of the upper hive as you like. If you wait until brood-rearing has about ceased—say the last of September or in October—there will be little or no brood to dispose of, but there is more danger of fighting then.

But are you sure it may not be better to keep them over winter? Then wait until they swarm, and 3 weeks after they have swarmed, when there will be practically no brood in the hive, drive out the rest of the bees.

2. You can sow it either this fall or the spring of 1907, but in neither case will it blossom before the summer of 1908.

3. Yes, it is entirely suitable for a beginner, and also for the most advanced.

4. The hindrance to the passage of the bees is not so very serious; not so much so perhaps as the hindrance to ventilation. But when one can not be present when a swarm issues, the trap will secure the queen.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Hive Ventilation

F. G. Herman, in the Michigan Farmer, says this about ventilation.

> The hive-entrances must be sufficient—the whole width of the hive and at least one inch high If the entrance-guards are used, then 2 inches high, and the whole width of the hive. Openings in the upper part of the hives are not only useless but are actual nuisances It is this way: An opening above will create a circulation of air on account of the difference of temperature between the inside and the outside of the hive. Now if the weather is cool the circulation will be strong precisely when not needed, or even hurtful. If the weather is very warm, the temperature is about the same outside and inside, and there will be almost no circulation, and the top openings will then be nearly useless, besides affording robbers a splendid chance to raise a racket. For this reason I prefer to have an ample entrance only; that means also a hive not too high, and wide enough.

The large entrance is quite correct, but his theory about top ventilation is pretty, but it does not work out. A hive does not ventilate like a chimney. The air is controlled by—not electric fans, but "bee-fans," which, placed at the entrance, draw the air *out*, and if there is an opening at the top of the hive a strong colony will draw a current of air *in* at that opening and out the entrance. Of course, the opening should be closed in cold weather, also when robber-bees are about, because in the robbing season there is no swarming season.

The amusing part of Mr. Herman's article is his concluding advice with reference to making a newly-hived swarm comfortable. After advising plenty of room, shade, large entrance, and cooling the hive and surrounding ground with water—all splendid advice which has been tested and tried for years—he says:

> "If the weather is very hot, let the cover be partly off, leaving a good, big crack for the air to pass through."

That is splendid advice, too, but how does it compare with what he says above?

> "If the weather is very warm......the top openings will then be nearly useless."

Of course, Mr. Herman does not believe what he said at first, or he would not belie it in his practise with newly-hived swarms. And if top ventilation is good to cure the swarming fever, why not apply it as a prevention rather than cure?

* * *

Chilling the Honey-Flow

It is a bit amusing in reading post-card crop reports to see something like the following:

"No honey, too wet; rained nearly every day;" and the next card from another section: "No honey, too dry; had no rain worth mentioning all summer." For my part, one of the best averages I have had per colony was taken the wettest summer I ever kept bees. On the other hand, I have had a good average flow in a dry year.

One thing I have noticed, and Mr. S. T. Pettit called may attention to it particularly, is that a sudden drop in temperature from 80 and over to below 50 will chill the blossoms so as to stop effectually a good flow of honey. This point, while it is a matter we can not control, is well worth knowing and considering. It seems to apply equally to clover, basswood and buckwheat.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Comb Foundation Called "Artificial Honey-Comb."

When foundation is sent by rail the handlers of freight would get not the faintest idea of what was in the packages if marked, "Comb Foundation." It gets marked, "Artificial Honey-Comb," that folks may have some idea of what it is—albeit the idea so conveyed is a very incorrect one. Quite likely the public belief that artificial comb can be made is helped on by these transit markings. Page 554.

Young Larvæ on Outside of Brood-Nest Repress Swarming.

W. T. Brite's idea that young larvæ on the *outside* of the brood-nest are more repressive of the swarming impulse than when in the center may have something in it. More nurses have a chance to take a hand. Page 557.

Is Matrimony Worse than Lightning?

Might have been worse, Sister Wilson. It wasn't matrimony that struck the shop—only lightning. Page 557.

Cutting Section Comb Foundation.

I never yet cut foundation in a way that seemed to me to be quite satisfactory. I usually use old shears chilled in cold water; but that is shamefully expensive of time. Let us hope that the Stoflet method, given on page 563, may at least afford an alternative way which some will find to their notion: Long hot knife used very swiftly on 6 sheets at once; an arrangement resembling the carpenter's miter-box, enabling the swift play to be correct. Wonder if a fine wire, tight in a wooden bow, and kept hot with an electric current, would not be much better than a knife. To have so little wax melted that there won't be enough to reach out and stick to the next sheet is the object, I take it.

Transferring Eggs in Queen-Rearing.

E. W. Diefendorf makes an astonishing statement on page 563. Finds it easier to put eggs into queen-cups than larvæ, on account of failing eyesight. And they succeed all right if the cups are bee-polished before the operation. Only one page further back Dr. Miller expresses a prevalent opinion, and says he is not aware that any one has ever succeeded at this. If (1) just the undamaged egg and nothing more was (2) put into just the right small quantity of (3) fresh, thin food, at (4) just the right hour in the age of the egg, and (5) no uninterested bee-gluttons were around to eat the food and tumble the eggs out, then it would seem the process ought to succeed. But securing all 5 of these things is a pretty tough problem. And maybe there are more digits still in the bush.

"Decent Jobs," and Others.

And so they call this truth, eh? to be put at masthead:

> "One decent job's an earnest that you'll do a thousand more."

Well, even a Standard Oil lawyer can not gainsay that truthful elucidation of "making good." But the artist who drew big *4-legged* bees just below that truthful line, he didn't do the decent job. And, eke, he might have looked at white clover heads before he proceeded to put a leafy involucre around them. Page 569.

President Dadant and Rheumatism.

The bald-headed druggist was off his base when he told the lady his remedy would infallibly cure baldness; and the President of we'uns the bee-bugs shouldn't indulge in rheumatism unless he is prepared to admit that bee-stings do not always cure rheumatism. Page 574.

Shallow Extracting Frames—Cleaning Extracting Combs.

Yes, Comrade Dadant, a frame only 6 inches deep is much easier to uncap than a large square frame. That's one point in favor of the shallow frame, sure. But when the bees try to coax the queen up through the zinc, as they often do, the empty nest they polish out is likely to occupy too nearly all the frame, seems to me.

The objections named against keeping the extracting combs over to next spring with the honey on them are real and great objections—except that I think it rather an alarmist idea about the old honey thus given damaging the new crop. Might, if not put on until a flow of 6 pounds or more a day was already in progress. I *meant* to let the bees into my comb-house and clean up my extracting combs last fall (a way of doing O. K. if you proceed wisely), but days when I wanted to entertain the circus were not plenty. Soon days warm enough for that purpose got scarce, as I extract very late. The upshot was it didn't get done at all. Well, this spring the time to put on supers was mostly regular starvation time, and I was proper glad to have so convenient a way to feed each colony when a little feed was a decided help to them. Page 575.

Almost a Cat-astrophe on Ferris Alley.

'Tis night.

On the Hastily-constructed but lofty fence of Ferris Alley three cats gently tune it. Possibly not an idyllic situation, but a situation just as Nature will have it.

Ah! Ah-h!! What's this? A fourth cat appears—mill-dust in his fur and grit in his eye.

A curse—a murrain—a bootjack on fourth cats, don't you know? Three cats are company, but four are nothing.

I plead guilty of taking Mr. Alley's figures without changing them. Probably was conscious that they were capable of being squeezed a little, but under the impression that it was so little as not to be very material. Now I know what impression did—when sharply impressed on my fur by the fourth cat. Much surprised to see the 5304 eggs per day squeezed down to 4645. Yes (as the windows all 'round the court are opening), I'll come down. Not sure that the lodgers hereabout are willing for us to be on "speaking terms," but we'll try it anyhow.

Now as to the two bootjacks the Boss holds up; What is a frame of brood? and, How many eggs a day will a queen lay for 21 consecutive days? My usage in my records has been for many years to call a frame of brood 20 squares. And a square is a spot holding a quarter thousand. This would allow 5000 head of brood to the frame—1968 of Dr. Miller's 6968 going blank. Very likely the average is not so high as 5000; but that number is *convenient*—and, moreover, it's not quite so much as his proposed ¾, which is 5226. My "square" is a little over 3 inches each way, only one side counted. I find it very convenient when taking the census of colonies in spring, for which purpose the "frame" is not usable.

I don't know so much as I wish I did about the consecutive laying of queens; yet I will start out. Casting extreme cases aside, I would suggest as a practical maximum, enough to produce a 7-pound swarm of bees in the 21 days. At 4450 to the pound that would be 4450x7 and divided by 21. This is 31,150 for the total, and 1483 per day. For one, I am disinclined to believe that a queen lays even so much as 2000 per day for so long a term as 3 weeks. Page 653.

Extracted and Comb Honey on Same Hive.

Some of us look with decided suspicion on producing both section honey and extracted honey from the same hive. Especially if your locality is a poor one you will need all your address to get good sections finished in paying quantities anyhow. Think twice, aye three times, ere you do any "monkeying" with empty extracting combs near your sections in such a location. Ruin your already too slender chances. With a first-rate location and half-depth frames, quite likely the way outlined by James A. Green might work very well. Lift the extracting super just at the right time and put a super of sections under it. Also, Mr. Green advises well when he advises you to pass judgment on your laggard colonies in late spring. If you judge they are not likely to finish up enough sections to amount to much, then give them a chance to store some honey in extracting frames. Page 579.

SHORT LIFE OF SOME QUEENS.

F. L. Day comes back with explanations of the very short life of his queens which are evidently very much better than mine were. The locality conduces to excessive swarming, it seems. Perfectly true that some localities do that. And I guess we may lay it down as a sort of general rule that when the bees want to swarm and the queen will not lend herself to that idea they show displeasure by worrying her, and are liable to worry her to death. They are especially liable to do this if they swarm and find she is not with them, and have to go back on that account. We also know that *sometimes* bees are not satisfied with one series of swarms in a season, but go through the round of prime swarming and afterswarming again. Page 596.

RELEASING QUEEN THROUGH COMB-HONEY PLUG.

Comrade Scholl gives an experience which is rather new in print, but perfectly natural and liable to happen every now and then. If you expect bees to release a queen by gnawing through a cut-out plug of comb honey they may take out the honey and *repair the comb*, and repair it in such a way that the queen is kept in indefinitely. Better we "look a little out." Page 596.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

A Neat Georgia Apiary

Mr. J. J. Wilder, of Cordele, Ga., has very kindly sent me a photograph of one of the pretty apiaries of that State, with the following regarding it:

> This is only a portion of the apiary of Mr. E. H. Norton, of Berrien Co., Ga. He runs for both comb and extracted honey, and has large crops each season. The neatness of this apiary shows that it receives the best of care. The man in the apiary is Mr. Norton, and the boy is his oldest son.
>
> Mr Norton is one of the coming bee-keepers, loves the business, and a promoter of the industry in this section. J. J. WILDER.

Mr. Wilder also writes that reports have come in from every portion of the Southeast, that the honey crop is the best in years. This is quite contrary to reports of the West and Southwest. Texas, as a whole, will have a very short crop—only a very few scattered localities being favored with even a light crop of surplus honey. Recent rains may improve conditions for late summer and fall, however.

APIARY OF E. H. NORTON.

Queen-Rearing Nuclei—Laying Workers

As I see so much in the bee-papers about nuclei, both large and small, I will tell what I use. Having years of experience along this line, I may be able to save some one the trouble and expense of trying what I have.

The first nucleus hives that I used are still in use, and I would recommend them as the best baby-nucleus hives. The frames for this nucleus hive are of the proper size to hang crosswise in an 8 frame Ideal super, 2 frames to each nucleus The baby-nucleus hives are very handy to haul about, and I use them mostly for out-apiaries. At the home yard I use what I call "flats." They are regular 8 frame Ideal supers with 3 division-boards that fit bee-tight, thus dividing one super into 4 nucleus boxes, with entrances at each end and each side.

I also divide an 8-frame brood-chamber into 3 parts, with entrances at each end and one side. Each division holds 2 Langstroth frames. These I do not haul about, as they are bulky and heavy; but are good to keep queens in all winter. I also use some boxes just big enough to hold two 4¼x4¼ sections, and have no trouble with queens being balled or refusing to lay. The trouble with them is that the bees, after cutting down the deep cells for the queen to lay, will proceed to build an extra comb between. A tack pressed in under each section holds the sections ¼ inch off the bottom.

Queens' eggs can be moved without breaking, Stachelhausen and others to the contrary notwithstanding. I sometimes use them in grafting queen-cells, and get as good results as with larvæ, but as an egg may be 3 days old, or an hour old, it is not best to use them in grafting, on account of the different ages.

BREAKING UP LAYING WORKERS.

A good and easy way to break up laying workers is to get an old queen and cage her without feed for a few minutes, and then lift out a comb with the laying workers and let the queen crawl out and on the comb; no smoke to be used. Set the comb back, and the job is done. Young queens can be introduced to queenless colonies the same way, but not to laying-worker colonies.

Sabinal, Tex. GRANT ANDERSON.

Bee-Keeping in Alsace and Loraine

The superintendent of railroads of Alsace and Loraine, Germany, has issued the following circular to his employees, which is translated from a Spanish exchange, El Colmenero Espanol:

"The success obtained in the cultivation of bees has induced us to recommend it warmly to our employees. Although it presents certain difficulties at first, and requires a certain degree of knowledge, yet we are persuaded that, after certain trials and several attempts, our employees will overcome these obstacles. Their efforts will be splendidly rewarded with the crop given by the bees. The installation of an apiary should be directed by an experienced bee-keeper. We would especially advise our employees to become members of the Apicultural Society, whose president and members will illustrate the subject to them, and give them suitable advice. The station-masters, and especially the watchmen, should be members of these societies, with power to initiate those in their charge in the science of bee-keeping.

"The administration will accord a loan to those employees whose pecuniary position will not permit them to make a start in bees. Likewise it will undertake to plant seeds of honey-bearing flowers along the road."

Contributed Articles

Can't Manage Bees by Rules—Value of Bee-Literature

BY G. M. DOOLITTLE

Lately I received a letter from a correspondent, written evidently by one who was not in an easy frame of mind when he wrote, containing, among other things, the following:

> "All the writers on bees are as opposite in their opinions and practices as it is possible to be. I have looked in vain for some one person whom I could follow with a certainty of success, and as freely as I would a teacher of any of the common branches of human knowledge. Dr. Miller teaches one thing, you another, Alexander another, Hutchinson still another, and so on, none of you agreeing on anything, except that you all wish to get a living and a little something more out of the bees. Why don't you work alike? This is the way people of other trades do."

As there seems to be an opinion similar to the above prevailing with many bee-keepers, especially with beginners in apiculture, perhaps a few words trying to explain these matters may not be amiss, and it may also help the readers of the American Bee Journal to understand each other better, or, at least, help us to understand why nothing pertaining to bee-lore can be followed like a rule in arithmetic.

Twice two makes four every time, because it can not be otherwise, no matter by whom multiplied, nor at what season of the year the computation is made, or in what locality; hence, we have the rule of multiplication as being always the same throughout all parts of the world. The same of addition, subtraction, etc., but if we come to apply any rule similar to the above to bees, we find it won't work, for the reason that every season brings its changes, and every locality its different sources of bee-supply or forage, heat and cold, while some one less than 100 miles distant has a full supply of nectar when we have none, or the ground is fairly flooded with water while the soil in our neighborhood is so parched that vegetation is withering and dying. And so something that will work successfully with Dr. Miller on July 4 will not work at all here, and something which is eminently successful in my hands on that date will not work at all with him. Now, what shall I do? Tell him that he is a fraud and trying to mislead me in what he writes? By no means. I must use charity, and try to find out wherein the conditions with him are different from what they are with me.

To illustrate: One season in our basswood honey harvest I found I could introduce a queen by letting her run in at the entrance and smoking the bees 2 or 3 minutes after I let her go, having removed the old queen during the day, and running the new queen in with smoke during the twilight of the evening of the same day. And as I did not lose a single queen out of nearly 100 so put in that season, I set it down as a rule that queens could be thus introduced safely every time. Now, thought I, here is a common-sense rule that will apply to bees like the rule of multiplication applies to the multiplication table; but when I came to use the same rule after the honey harvest was over I found my rule was "no good," as 3 out of every 4 queens put in in that way would be lost. I was foolish enough to write to a friend at the time I was having such grand success how to introduce queens, in reply to such a question from him, and when he tried it in a different locality he lost every one so tried. The result was that he called Dollittle anything but a "teacher of any of the common branches of human knowledge." Now why was it that my friend did not succeed as I did? Simply because all the circumstances as to honey-yield, state of the weather, etc., were not in the same condition in his locality that they were in mine. Again, when there came a change in the conditions in and about my apiary I also failed; and I doubt if those exact conditions ever came to my apiary again.

Then, I have been successfully using, and supposed successfully recommending, the superseding of all old and failing queens immediately after the basswood harvest by the plan of killing the old queen, and at the same time giving a caged ripe queen-cell (one reared during the honey-flow from basswood, when the best of queens are reared) at the time of the removal of the old queen. The cell being caged, keeps the bees from destroying the cell before they miss their old queen, and thus when the royal occupant emerges from the cell from 24 to 36 hours later, she is accepted, no queen-cells reared, and she soon becomes mother to the colony. This, in brief, has been my way of superseding old queens for the past 20 years, and, with the exception of now and then a case the plan has given perfect satisfaction. Now and then the bees would start queen-cells from their own brood, killing the queen after she emerged, when they would perfect a queen from their brood, when she, in time, would become the mother of the colony, giving the colony a young, vigorous queen just the same, only she would not be just the "blood" which I wanted them to have. Imagine my surprise to receive a letter a few days ago telling me how the writer had used the plan for the first time this year, and only 3 out of some 30 or 40 colonies had accepted the young queens, while the rest had killed these young queens, reared queens from the brood left, and had gone to swarming with the young queens to an excessive rate. Now, I do not remember ever having a swarm when trying this plan at the close of the basswood harvest (though I have had just the conditions he describes when trying it during clover bloom), for we have a scarcity of bloom from basswood to buckwheat, so that no colony thinks of swarming, no matter how many queen-cells are reared and perfected in a hive at that time. But from his "swarming" it is evident that the same conditions exist with him after the basswood flow that do here in June when the clover is in bloom.

Thus we see that no rule in bee-culture can be formed which will do to follow throughout the United States and the world, as can the rules in arithmetic, and the only thing we can do is to try the plans of others *cautiously* till we know that they are suited to our wants, using charity all the time. There is a great difference in individuals. Some experiment carefully, proving everything critically step by step as they go, arriving almost at a definite conclusion at the first experiment, while others experiment in such a careless, slip-shod manner that their experiments at the end of several years are of little value. Notwithstanding all of these drawbacks, any careful readers of what is written on apiculture will find much of value after they have sifted the chaff from the wheat. It is often necessary to apply what was written a long time ago in the "good book," where it says, "Prove all things; hold fast to that which is good," when reading much of the literature of the day on many other subjects besides bee-keeping.

However much there may be of imperfection in our bee-literature, $100 per year would not hire me to dispense with it, for it is to this same literature, very largely, that I owe nearly all the knowledge I possess, and the success I have obtained, in bee-keeping.

Borodino, N. Y.

* * *

Supers, Fences and Sections

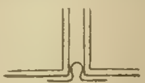
BY ADRIAN GETAZ

I have tried several kinds of supers and sections. All have some advantages and some disadvantages. Some of the late contributions to the American Bee Journal have shown me clearly that in a few cases, at least, the locality has more to do with the selection of the right kind than I had supposed until now.

SUPERS.

I have used the T-supers to some extent, both with loose and fixed T-tins. I have several yet, and occasionally use some when I am short of the other kinds

My objections to them are that the top and bottom of sections are left unprotected, and that the tins keep the sections apart and give the bees a chance to push propolis between them to a considerable depth, which means that much more to scrape off; and after the scraping is done an ugly stain is left. The cut shows how the tins keep the sections apart:

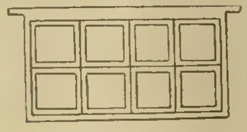


In my locality the sections must be protected all around or the unprotected parts get badly travel-stained, and sometimes quite dark. The flow is seldom heavy here, except occasionally for only a few days at a time. Usually there are interruptions between the different sources of surplus. The result is that the sections are often on the hives several weeks before being full and capped. Add to this the disadvantage of a locality furnishing plenty of propolis, and it is easy to see the necessity of keeping off the propolis from the sections as much as possible. In localities where the honey-flow is heavy the case is altogether different; the sections do not stay long enough on the hives to get badly travel-stained, or daubed all over with propolis. In such cases the T-supers are as good as the best.

As I make my own hives I am not compelled to use the standard sizes, and for convenience I make the supers a fraction over 17 inches long—just the length to accommodate 4 sections.

Before going further, let me tell you the story of the case. Why did the Root people adopt a super too long for 4 sections, and of course entirely too short for 5?

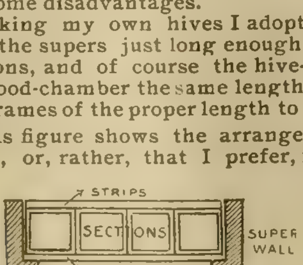
When A. I. Root invented or adopted the present sections the modern supers were not in use yet. The surplus apartment was another hive-body containing frames like those of the main body. A. I. Root adopted a section of such size that 8 of them filled a frame, as shown here in the figure:



When the modern super was invented the size of the hive-body could not be changed because there were already too many in use. Evidently the supers must be of the same length as the hive-body. The size of the sections might have been changed with less inconvenience, but still not without some disadvantages.

Making my own hives I adopted at once the supers just long enough for 4 sections, and of course the hive-body or brood-chamber the same length, and the frames of the proper length to fit it.

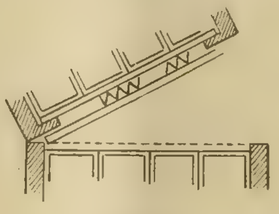
This figure shows the arrangement I use, or, rather, that I prefer, for I



have other kinds on hand also, but I will eventually replace them. Once the arguments advanced in favor of the standard Langstroth frames decided me to construct several hives of that kind, but I soon was sorry that I did, and I am sorry yet.

There are several advantages in using strips both below and above. In the first place, the sections are protected all around against propolis and travel-stains. Another feature needs a longer explanation: Suppose a super has strips under the sections but none above. In my locality, with a slow honey-flow, it is impossible to prevent entirely the building of burr-combs between the frames and the supers. Suppose we put on a second super and want it under the first. We lift the first, the burr-combs break off, and leave the pieces attached under the strips of the super. We place the new super on the brood-nest, and then the old super on top of it. It is impossible to scrape the burr-combs absolutely clean from the wood. And the least remains of it induce the bees to rebuild a burr-comb between the strips and the sections below. And when next time we lift the top super said burr-comb will pull off the top of the section, or, if it does not, it will give us some cleaning to do.

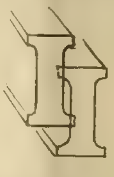
With strips both above and below such trouble does not occur. It is not even necessary to clean the strip. A burr-comb between the 2 supers will not spoil the sections. If it does not break off it will pull up the top strip of the lower super without damaging the sections. The following cut will show at once how this happens:



Fences.

The first question that might be raised here is whether separators should be used at all or not. So many conditions contribute to influence the surplus obtained by any colony that it is almost impossible to tell whether such or such other thing has given better results or not. As far as I can guess at, I think that more can be obtained without separators, but how much I don't know. I think that under favorable circumstances, such as a heavy flow, very strong colonies, etc., the difference is perhaps hardly noticeable, but that under adverse circumstances it may amount to a good deal.

When separators are not used the 4 bee-way sections should be used. They



give better communication in all directions, and they are more regularly filled than the 2 bee-way, the inside openings inducing the bees to build the combs more regularly. The chief objection to these sections is that unless very carefully handled the corners are apt to gouge into the other sections. The cut shows how it "happens."

To me the chief advantage of using the fences is that I can use plain sections with them. So far as the "separating" is concerned, I doubt whether they are any better than the other kinds.

Plain Sections.

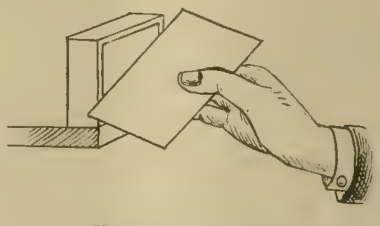
The plain sections are decidedly the best. They look better; the honey coming almost level with the edges of the section makes it look well filled, or, as we say in the South, "plump full." Side by side an ordinary section looks as if not completely full, or, as James Heddon used to say, "lean;" while the plain section looks "fat."

It is claimed that the corners are filled better, owing to the fact that the bees can reach them more easily. I don't know to what extent that is true. To have well-filled sections it is necessary to put in full sheets of foundation nearly touching the wood all around, or better, fasten the foundation to the wood all around with melted wax.

Those who use melted wax for the first time are sure to put on entirely too much. With a Van Deusen tube, or spoon that I described in another contribution, and a little practise, but very little wax is used. Perhaps a drop at each corner would be enough, but I have not tried it.

The strips above and below the sections are very simple and cheap affairs when using plain sections. Get from any wood-working shop long strips ripped out of 1½-inch stuff and cut them yourself of proper length, and there you are. With bee-way sections it would be necessary to have escalloped strips, rather costly, and which might not always fit the sections as closely as desirable.

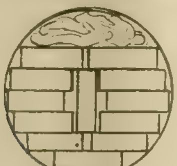
The plain sections thus protected need but very little cleaning, only on the faces. One scraping more on each side with a joiner's scraper is about all that is needed:



Packing Honey.

I sell in the home market. The best package I found is a common lard-can. It costs 25 cents, and can be returned and used almost indefinitely. If the grocer keeps them he pays 20 cents each. That is the price at which he resells them to farmers for packing lard. In selling chunk or extracted honey, the can is usually weighed with the honey, and the whole paid at the price agreed on. In that case I get sometimes a few cents more for the can than I paid for it.

The packing is easily done. Two or 3 thicknesses of paper are placed at the bottom of the can, then a layer of sections, as shown in the cut. The sections are crowded against one side and a piece of paper folded and placed at the opposite side, so as to prevent any lateral movement. Two or 3 thicknesses of paper come on the top of the sections, another layer of sections is placed on it in the same way, and then a third, and finally enough paper to keep the whole tight when the cover is on.



One advantage of packing is that the sections can be easily taken out, inspected and replaced, and when it is done the package is in as good order as before, which is seldom the case when a nailed cover is pulled off and nailed back.

Another is that the ants can not get in. Here in the South the warehouses, and even the dwelling-houses, are often infested with small ants, which will often succeed in getting into a box or case, especially when the cover has been taken off and put back.

As to the putting of the sections in the supers and taking them out, there is no appreciable difference between the T-tins and the strips just described. It can be done as quickly with one as with the other, and the same process can be used when taking all the sections out at once.

Knoxville, Tenn.

Do Bees Puncture Fruit?

BY JOHN KENNEDY

I feel called upon to say something under protest in regard to the editorial, "Bees Don't Puncture Fruit," on page 653. I am now, and have ever been since I began handling bees, an all-around friend to the busy bee. I have proven that in several articles I have written, both to the different fruit-journals, and, I think, to the American Bee Journal I have written on this very subject. Some years ago quite a discussion appeared among the fruit-growers about the bee being destructive to the different fruits, and carrying the pear-blight, and the bee-men defended the bee, etc. At that time I also felt called upon to defend the bee, and to write several articles along that line, for I was both a bee and a fruit man then as I am now, being about equally interested in each. But all history, no matter on what subject, when given to the public, should be correct and true to facts.

Last year I noticed my Scuppernong grape arbor being depredated by some unknown enemy. There was a small puncture in each grape, which, of course, caused the bees to flock to these grapes, whether they were the depredators or not in the first instance. And being such a staunch friend of bees, and believing them harmless as to puncturing fruit of any kind, I was disposed to clear them, and look for the probable enemy. I noticed wherever I went about the arbor I could see certain birds fly away in a rather guilty manner, and I was ready to believe they were doing the mischief. So I went gunning for birds, when, of course, I could never kill but one at a time. as, if there were more in the arbor, they would all fly after the first report of my gun.

Well, this went on for some time when I began to discover so few birds visiting the arbor, and every individual grape would become punctured just as soon as it became about ripe, until I finally began to think there was some other enemy depredating those grapes. I watched as closely as I could during the daytime, and at last the birds quit the arbor altogether; but during all this time I could find thousands of bees there—a bee to every ripe grape; and, another thing, every grape was so uniformly punctured by about 1/16 inch, and so evenly done as if a pen-knife had been used, and always along the side of the grape, beginning near the top or bud end and extending down the side. Finally, not being able to discover any other enemy, I was forced to the belief—greatly against my will, however—that it was none other than the honey-bees doing all this mischief. By way of giving the benefit of a doubt in favor of the bees, I will frankly say I never looked for nocturnal insects. The language of the Editor in the item above referred to, is as follows:

> "It has taken a long time to exonerate the bee from this charge [puncturing fruit], but it is now found that most of the injury is done by crickets and June-bugs. Prof. Garman, of the Kentucky Experiment Station, found 2 varieties of tree-crickets working vigorously at night, cutting holes in the fruit named [grapes, peaches and plums]. He expresses the belief that these crickets are the chief culprits in puncturing thin-skinned fruit. One variety of June-bug was found in the same business."

Now, in reply to all the Editor quotes from Prof. Garman, I will frankly say I have never suspected or watched for nocturnal enemies in my investigations, and I don't know that I ever heard of the night cricket before. We have here a leaping cricket that has nocturnal activity, but it was always looked upon as a harmless thing, doing most of its mischief in kitchens, like the roach, hunting scraps of waste peculiar to a kitchen. We have the June-bug, but I never saw one on a grape or any kind of fruit except the figs, and never on the fig until it begins to sour, when about the same time the honey-bees can be found in large numbers also. But the June bug never remains here until August, and the Scuppernong grape with us ripens about Aug. 20.

I would be very glad indeed to find the honey-bee innocent of this mischief. And, as I said in the beginning of this article, I accuse the bee under protest, but if the evidence is so overwhelming we are forced to condemn them. Even now, under the suspicious circumstances, I am willing to give the bees the benefit of a doubt, but I shall watch the coming crop very closely as it ripens in the next 2 weeks, and if I find any other enemy, and can clear the bees of this slanderous charge, I will record my observations by sending my experience to the American Bee Journal. I am more than anxious to find the bee innocent of this mischief.

Another defense I gave the bee in my letter to the fruit-paper referred to, was clearing them of carrying blight to the pear-trees, and I well remember one special argument I used, which was, the fact that I had seen in my orchard pear-trees blighted that had never bloomed; and why would a bee be visiting a pear-tree without blossoms? Also, in the same orchard, I found pear-trees in full bloom with thousands of blossoms and bees, that never blighted, while many near by did.

I think I am ready to clear the honey-bee of carrying pear-blight, but this grape business makes me shake my head in a suspicious manner, meaning, Miss Bee, I have my doubts about you, after my gallant defense in your behalf heretofore. But I will hold my peace until this crop of grapes comes and goes, and if you don't show your meanness by destroying my grapes, I will embrace you as a victim of vile slander.

Selma, Miss., Aug. 8.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1,000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Wants Positive Cure for Foul Brood

1. Is there any positive cure for foul brood, other than starving it out of the bees, and putting them into a clean hive?

2. Is there any law in Pennsylvania to prohibit people from distributing the disease? We have been troubled with foul brood in our apiary for the last 12 or 15 years in succession. Pennsylvania.

Answers.—1. I don't know of any. But it isn't necessary to use a clean hive; the old hive may be used, but not the old combs.

2. Perhaps some other Pennsylvania bee-keeper will answer this.

◆

Best Hive—Telescope Hive-Cover

1. What kind of a hive is the best for comb honey; for extracted?

2. Is the Danzenbaker hive a good comb-honey hive?

3. Could I use the Danzenbaker hive for extracting? If so, state how to use it.

4. Can I use the telescope cover 11¼ inches deep over the Danzenbaker hive in the summer-time, or is it only for winter use?

5. Is the telescope cover better than the excelsior cover? Ohio.

Answers.—1. After trying several different hives, I have found nothing that suits me better than the 8-frame dovetailed; but unless I expected to give very close attention to my bees I should prefer 10-frame.

2. Either the 10-frame dovetailed or something larger.

3. Some speak highly of it. At one time I had thoughts of adopting it for my own use, but after trying it on a small scale I did not like it well enough to adopt it.

4. It can be used for extracting just as you would use any hive for that purpose.

5 A telescope cover may be used summer or winter anywhere where it is large enough to go over the parts desired.

6. That's a question that can't be answered in a single word. A good many things must be taken into consideration. Some prefer one and some the other. For my own use I prefer the plainest kind of a cover, only so it is waterproof, close-fitting, and with an air-space to make it cool in summer and warm in winter. But if I were to change places with some one who is using a telescope cover, I might prefer the telescope.

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How Late to Remove Surplus Honey

What time in the fall, as near frost as possible, do you think that a bee-keeper ought to take off section honey?

Do you think 2 weeks before frost would be too late? Sometimes we do not have a killing frost until the last of November here, and sometimes we have a killing frost the 9th of November.

If the temperature goes below 48 or 50 degrees above zero by the middle of the day, I hardly ever open a hive in the fall. At least, not if much below that. Bees here store sometimes as much honey in the fall as they do in the spring, when the summers are not so severe and hot as to kill out a good many of the bees—that is, when the colonies are strong they do better in the fall. All bee keepers in this locality leave on the hive all winter the sections that are unfilled in the fall. We had but 3 freezing days last winter that the bees did not fly out; on all other days they flew out at some time during the day when the weather was warm enough. Georgia.

Answer.—It's a matter not of frost but of flow. Or, rather, cessation of flow. If you were told that 2 weeks before frost is the right time to take off all sections—and I take it that what you are talking about is the right time to take off all sections for good—what guide would that be to you? for who can tell 2 weeks, or even 2 days, beforehand just when the first frost will come?

No, the time to clear all sections off the hives is when all storing of the right kind is done. All storing "of the right kind," for sometimes it may happen that after the bees cease to store honey of a desirable sort for surplus, there may come again a fall flow of such honey as you do not care to have in sections, but will be all right for the bees to store for their own consumption. The time to take off all sections will depend upon pasturage and seasons, and possibly on other things. So it may be 2 weeks before first frost, and sometimes it may be 6 weeks or more. Indeed, in some cases it might not come till after frost. When you have reason to believe the bees will do no more storing in sections, or at least will store no more such honey as you care for in sections, then leaving them on longer will only be a damage. If it is fashionable to leave sections on all winter in your locality, then there's one thing in which you will do well to be unfashionable. The more the bees fly in winter, the worse it will probably be for the sections that are left on.

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Catnip Honey—Supers and Separators—Getting Rid of Ants

1. Is catnip honey fit for table use? It seems to taste very strong.

2. What kind of a super would you advocate using—the T super, or the slotted section-holder super, for bee-way sections?

3. Would you advocate using separators in T supers?

4. What is the best remedy for keeping very little yellow ants from attacking the honey in the honey-house? Some years they are all over the house and attack anything sweet. They are a "fright" when they attack a stack of comb honey ready for market, for the only way I know to get them off is to blow them off. Iowa.

Answers.—1. Catnip honey has the reputation of being fine for table use. Unless you have catnip in great abundance, and little or nothing else yielding at the same time, you can hardly be sure that you have pure catnip honey; and it is impossible that the very strong taste comes from some other honey being mixed with the catnip.

2. I prefer the T-super.

3. Yes, if the honey is to be handled as much as will be if put upon the market, separators should be used. If the honey is merely for home use, then it doesn't matter.

4. Trace them to their nests, and give them a good dose of bisulphide of carbon or gasoline. You may also pile the honey on a platform with feet which set in some sort of dishes (oyster cans, or old cans of any kind), the dishes being kept filled with water or oil.

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Late Increase—Experience in Super-Work

I have one Langstroth 8-frame hive crammed full of bees. On July 4 I cut out 4 queen-cells to keep them from swarming. On the 11th I examined again and found 7 queen-cells—4 on one frame, 2 on 1, and 1 on 1 frame. I have a super on the hive, but the bees don't seem to make any progress in filling it. I have the queen's wings clipped. I have an extra hive ready to put the swarm in.

1. Is it best to allow natural swarming? I would like to increase to 3 or 4 colonies. What is best to do in my case?

2. In putting starters in the super sections I used some old comb in 4 sections; for the balance I used comb foundation. The bees have now capped some of the sections started with old comb, while they eat holes in the comb foundation, and even take the comb foundation out altogether. Alhambra.

Answers.—1. It might have been best to allow natural swarming in the first place; but as you have hindered the bees by cutting cells out twice, and as there is probably very little nectar coming in, it is possible that natural swarming will be given up, and if you want to increase to 3 or 4, the surest way will be to take matters into your own hands. If you have no other way in mind, you might proceed in the way offered to "Iowa," page 329. But you must remember that it's getting pretty late in the season to do much in the way of increasing, and it may not be safe to think of doing anything more than to double. In any case, if little or no honey is coming in, you must be ready to feed bountifully.

2. The season is chiefly at fault. The bees are not getting enough to draw out foundation, although getting just a little more than they need in the brood-chamber, so they put the surplus in the sections that have drawn comb, and dig down some of the foundation to help finish out the few sections filled. There's no help for it except to wait for a better season, unless it be to take off the sections to prevent the bees from destroying the foundation, and allow them enough combs in a second story to store any little surplus they may have.

What Ails the Bees?

I introduced a queen July 4, and at this date, Aug. 18, there has not been a live bee hatched; but for some time I have noticed early in the morning young bees dead on the alighting-board. The bees in the hive are blacks; the queen is a golden, as are the dead, young bees. What is the matter? Would you remove the queen? OHIO.

ANSWER.—I don't know what is the trouble. From what you say I infer that the queen is laying, that brood is reared, but no young bee matures sufficiently to make its way out of the cell, the immature young bees being carried out of the hive. It hardly seems that the queen is at fault, yet it is barely possible. It looks just a little as if there were poison in the case. If so, then the same trouble ought to appear in other hives. I am sorry not to be able to give a satisfactory answer, but can only plead ignorance.

May Be Foul Brood

I have a colony of bees that in early summer began to dwindle. I examined them and diagnosed pickled brood. I shook all the bees on new foundation, in a new hive. It was just at the start of the honey-flow, as the forepart of the summer was no good. They now have plenty of honey, but as for the brood or increase it is poor. Some bees hatch; brood all sealed, and lots have small holes in them, and the bees look as though near maturity, and then die. What is the disease, cause, treatment, etc.?

My other colonies have done exceedingly well.

ILLINOIS.

ANSWER.—I should be afraid of foul brood, although you say nothing about the stringy nature of the brood. If you are a member of the National Bee-Keepers' Association, send a sample to General Manager N. E. France, Platteville, Wis. He is an expert in such diseases. If not a member, send a dollar at the same time, and that will make you a member.

Lapse of Memory—Was Its Cause Mental or from a Bee-Sting?

A rather peculiar thing happened here a few days ago. A young man in this neighborhood was working in the hayfield, and just about noon he was stung on the lobe of the left ear by a bumble-bee. He says that hurt him more than a honey-bee sting usually does, and that it felt as if it had pierced him through from ear to ear. His ear swelled some, but after a short time felt easier. He ate his dinner and went back to the field, where he drove a team hitched to a buck-rake. At 6 o'clock p.m. he unhitched his team and started to the house, riding one of the horses, and at this time his memory ceased to work. He rode to the house and put his team in the usual place and went into the house, of which he remembers nothing. He would ask questions and when answered would ask the same question over again a number of times, and from this time until 12 o'clock noon the next day he remained in this condition. He says "he was a walking, unconscious man." His people tried in every way by questions and other conversation to get him to remember, but without avail.

Just about 24 hours after he was stung his memory returned. Those 24 hours of his life to him are blank. Did the sting cause the trouble? or what, in your opinion, was the cause?

I have made diligent inquiry as to whether he could have been stunned or bruised in any way. There were no signs on the body of having been hurt in any way. A slight soreness was felt in the back of the neck and shoulders. He went to sleep in the forenoon, and when he awoke he was himself.

We are all anxious to have your opinion on this case.

IOWA.

ANSWER.—The case is a remarkable one, but by no means without a parallel. Every now and then we hear of some one who seems to lose his identity, perhaps wandering away from home and friends, then after atime resuming his former identity, but with no recollection of what transpired during the time when he was not his usual self. Sometimes a person of that kind may be lost for years, and sometimes the mental machinery may be out of running order for only 2 or 3 hours. It is not impossible that in the present case there might have been the same lapse if the patient had not been stung at all. He was stung before noon, suffered from the pain, but recovered from it and did a half-day's work before the mental trouble occurred. If the trouble came on 5 or 6 hours after the sting occurred, might it not have been just the same if it came on 24 hours, a week, or a year after the sting, and had the sting really anything to do with it? Yet it may not be wise to say the sting had nothing to do with the mental difficulty; while not being responsible for the trouble it may have been the "last straw that broke the camel's back," in which case it might be called the exciting cause, although a dozen such stings at another time might have no effect of the kind whatever.

Sweet Clover Seed—When to Sow It

Have you any sweet clover seed for sale? If so, what is the price per pound by mail? When is the time to sow it—in the spring or fall? PENNSYLVANIA.

ANSWER.—I have no seed for sale, and don't know where you can get it, unless you want the yellow kind, and by looking back you will see that Mrs. Amos advertises that. You can sow fall or spring, but sowing this fall will gain nothing over sowing next spring, for the fall sowing will not come up till the next spring.

Shaken Swarms or Increase by Dividing—Putting on a Second Super

My experience with bees extends only 2 years back, and the longer I keep them the more interested I become in them, and the less I find out I know about them. I have 16 colonies now. This year was an unusual one for excessive swarming. I got 5 swarms from 2 colonies.

1. I have read some about shaking swarms, but I don't quite understand it. How can a person divide a colony of bees and prevent them from swarming?

2. Is there any way one can make a new swarm produce honey in the supers before they get all of the brood-chamber full? What can a person do to induce them to store honey in the supers?

3. I have several colonies (this year's swarms) that have their brood-chambers all full of honey and brood, but they don't seem to want to go to work in the supers. Just a few crawl around in the supers, and we have fine, sunny weather every day. I have always been told by old bee-keepers that the new swarm is the one that stores the surplus honey that year, but I have never yet had a pound of honey from a new swarm. About all they will do is to fill their brood-chambers, and by that time fall weather has set in, and the honey season is over. My experience has also been that the old swarm, or last year's colony, is the one that gives me the surplus.

4. Last year I had a colony that filled one super nearly full of honey, so I was advised to put on another empty super between the full super and the brood-chamber, and that the bees would go up into the upper super and finish capping that over before they went to work in the lower super. But about a week after I went to look at them, and, behold, all the honey from the upper super was gone. What had

become of it? They did not put it in the lower super. That was one experience. This year I had a colony with the super nearly full of honey, and instead of putting the empty super between it and the brood-chamber I put it on top of the super that was nearly full. I have been watching them ever since, and they just simply stopped storing any more honey, either in the super that was nearly full, or in the empty one that I put on; but instead began to put bee-bread in some of the empty cells, and I believe if I had left both supers on the queen would have gone up and laid some eggs in them.

5. If a person has an out-apiary, which I expect to have next year, how can he manage that and get the swarms if he is not on the ground all the time? OREGON.

ANSWERS.—1. When you shake a swarm, it is a good deal like natural swarming, and ought to prevent swarming just as much as a natural swarm. When a natural swarm issues, part of the bees go with the old queen, and you can imitate that very closely when you shake a swarm. Simply take from the hive all the combs, taking with the combs enough bees to take care of the brood, making sure to leave the queen in the hive on the old stand, put the combs of brood with adhering bees in a new hive on a new stand, and that's all there is to making a shaken swarm. You see you have on the old stand just what you have in a natural swarm, with the advantage that you have *all* the field-bees in your artificial swarm; at least you will have all of them within a day or so, for the field-bees that leave the hive on the new stand will for a day or so return to the old stand and join the swarm.

2. The instinct of the bee obliges it to take care of its own nest first thing, and yet, after it has started its brood-nest and the queen has begun laying there if you put on the hive a super in which the bees had begun storing before they swarmed. they will store honey in the super at the same time they are working in the brood-chamber, provided, of course, that they are gathering enough to work in both places.

3. If bees are to store in the supers, there must be nectar coming in from the fields, and it is just possible that in some cases there was not enough to be had in the fields, so of course they would not store any surplus. Let me tell you one thing you can do that will make the swarm stronger, and so make more sure of its storing surplus: If there be a somewhat even division of forces, it may be that neither the swarm nor the mother colony will get enough from the fields to do super-work, but if one of them be made extra-strong it may be able to do surplus work. So when you hive the swarm, set it on the old stand, putting the old colony close beside it facing the same way. Then a week later move the old hive to an entirely new place. The result of that will be a large accession of bees to the swarm, for all the field-bees that belong to the old hive, when they return from gathering in the fields, will go straight to the spot they have been used to, and not finding their own hive there they will join the swarm.

4. The advice to put the empty super under the one that is nearly full is all right if you are pretty sure the bees will keep on storing; otherwise it is better to put the empty super on top, unless, indeed, you think there will be no more storing, and then no empty super should be given at all. In the first case you mention (the bees carrying the honey down from the raised super), the bees most likely carried the honey down into the brood-chamber. In the second case, with the empty super above, they stopped work simply because they had nothing more to do. The trouble was the same in each case, viz.: the stoppage of the honey harvest. And there's nothing you can do, nor that the bees can do, to make matters better when the flowers have ceased to yield nectar.

5. Perhaps there is nothing better you can do than to get ahead of the bees, and shake swarms at least a little before they have a chance to swarm naturally.

Tiering Two Weak Colonies for Wintering

1. In the event of colonies not being strong enough for wintering, is it a good plan to tier 2 hives with a zinc-board between them, thus allowing the combined heat to keep the bees warm enough—the wintering to be outdoors? I have some good queens and I dislike very much to destroy them in the event of the necessity of uniting.

2. Is it too late now (Aug. 10) for a virgin queen to commence laying and breed sufficiently to make a good colony for wintering? She comes from a $2 red-clover (?) strain.

3. Is it safe to put bees in winter quarters without a full complement of filled frames?. It seems to me that if 6 frames had the winter supply, or possibly 5, filled by the incomplete number of bees, the plain division-board moved close to the frames and a small sack filled with planer-shavings or leaves placed tightly in the vacant place in the hive, it might result favorably. Am I right in this? I am feeding to stimulate brood-rearing, but I fear the time is too short to get strong colonies this poor year. ILLINOIS.

ANSWERS.—1. I've been sitting for some time, chin in hand and elbow on knee, trying to think how to answer that question. If I say yes, and everything comes out all right, you will have 2 colonies next spring instead of 1, and very likely you'd rather have 2 weak ones than 1 strong one. But if you unite in the usual way, you will be surer of their living, and it is better to have 1 live colony than 2 dead ones. Something depends upon the strength of the colonies. If they would make no more than a fair colony when united, then it will probably be better to unite. If stronger than this it might be well to try the tiering. Another thing to be conridered is the risk of queens. Some have succeeded with colonies thus tiered in spring, while others have had one of the queens killed. Some have thought that such killing is more likely to occur if the bees are hybrids. But all this round-about talk will hardly blind you to the fact that I really don't know what is the right answer to your question.

2. Not too late, provided she has bees enough to cover about 3 combs, and there is enough pasturage for them to keep gathering till the middle of October. If pasturage is lacking, you must feed.

3. Yes; some think it is even better to take out one or more frames, all the time provided there be no scarcity of stores, and you are speaking of "filled frames." Six frames ought to accommodate a very strong colony. The "poor year" can hardly be considered in the case, if you feed to make up for it.

I thank you heartily for your kind words in a letter accompanying these questions.

Wiring or Splinting Shallow Frames—Shallow or Deep Supers for Comb Honey?—Full Combs for Spring Building Up of Colonies

1. Would you advise wiring or putting splints in shallow extracting-frames (5⅜-inches deep), or would they be as well without wire or splints?

2. Would you advise using shallow extracting-supers, or deep supers, when running for comb honey? If deep supers, tell your objection to shallow ones?

3. Do you think it is better to run for both comb and extracted honey on the same hive?

4. Where do you get frames full of comb to build up colonies in the spring, as you say you get your colonies 2 or 3 stories high? And when the honey-flow comes you reduce them to one story, and put on supers; then what do you do with hive-bodies full of comb when you put on supers, or have you a different way of manipulating in spring? MISSOURI.

ANSWERS.—1. You can get along without any sort of support for the foundation by being more careful in handling the frames and taking a little more time with the extractor, especially while the combs are new. The time of putting in the supports must be figured against the extra time of manipulation without supports. On the whole, I think I would rather have the supports, especially as the time of putting them in may be in winter, and the extra time of handling the combs comes at a busy time.

2. I don't know of any objection to the shallow extracting supers except that the combs cannot be used interchangeably with those in the brood-chamber. If I were running for extracted honey, I think I should prefer the shallow super. Fortunately, the case is one in which you can experiment without much trouble. Try part of each. If you find you like better the shallow, there will be no trouble afterward in having more shallow combs and using the deep ones all in brood-chambers, especially as you probably will want more brood-combs as the years go by. If you find

you like the deep combs better, you will find no trouble afterward in using the few shallow supers along with the deep ones. I don't see that running also for comb honey makes any particular difference in the case, unless it be that you think there is a possibility afterward of running entirely for comb honey, and if there be such a possibility then you should have no shallow supers.

3. I don't know. I feel pretty sure it isn't best for me; but under different circumstances I might prefer it.

4. Before the harvest no colony ever needs more than 2 stories, and a good many of them need only one. So you see I don't need an extra story for each colony. Some, however, that do not need an extra story will have one all the same, partly as a precautionary measure, allowing them the chance of using the extra room should they need it, and partly for the sake of having the bees take care of the idle combs. When the time comes to reduce all to one story and put on supers, the extra stories—some of them—will be piled up several stories high, over and under colonies that are rather weak and are allowed to build up, and some of them will be used in starting nuclei and new colonies. Some of them will be needed to be filled with honey, so as to have combs sealed solid full to be used wherever needed the following spring, and sometimes a story filled with empty frames will be allowed to stand until the worms begin work in them, and then I wish I had been a better bee-keeper so as not to allow such things to happen. Some colonies will be lost in winter and spring, and some will be doubled up in spring, some empty combs will be taken from the hives in exchange for the surplus combs saved over and in these ways there will be enough combs to furnish the extra stories needed in the spring to begin over again the year's round.

◆

Bees Using the Old Comb

I put bees in a Danzenbaker hive in 1905; in 1906 they swarmed, and in June they hatched out the first crop of bees. Will they continue to use the old comb, or should that be taken out? If so, when—or will they continue to use it? MISSISSIPPI.

ANSWER.—Your question, practically, is whether comb needs renewing after a certain length of time, or whether the bees will continue to use it after it is several years old. It has been proven very satisfactorily that the continual use of combs by the bees for a number of years does not cause deterioration so as to make it advisable to renew the comb. Indeed, I have in my own apiary combs a third of a century in use, and the bees use them just as well as ever. I am not sure whether I fully understand what you mean by that "first crop of bees." When a swarm is hived, the queen begins laying very soon, and 21 days after the first egg is laid the first young bee will emerge from its cell, and there will be a constant emerging of young bees from that time all the time until breeding stops in the fall, so it will hardly do to say that there is any "crop of bees" in the case.

◆

Bees Superseding Queens

I had a prime swarm issue June 15, introduced a shipped queen July 6, and when I took the old queen out I cut out 2 ripe queen-cells, and introduced the new queen. In 15 days I found 3 new queen-cells ready to seal. Will you please give me the cause of this? VIRGINIA.

ANSWER.—There was probably nothing out of the usual course of events. The regular thing is for every queen to be superseded when 2 or 3 years old, and the time for superseding is usually toward the close of the harvest, although it may be more commonly than supposed right after swarming. June 15 you hived a prime swarm, and, the queen being old enough to be superseded, the bees started 2 queen-cells not many days after being hived, and if they had not been disturbed there would have been a young queen from one of these to supersede the old one. But you cut out these cells July 6, at the same time removing the old queen and introducing the new. Then as soon as the new queen had fairly got to laying, or about a week after you had put her into the hive, 2 more queen-cells were started, which you later found ready to seal. On just what grounds the bees based their reasons for starting these cells I don't know. It may be that there was still left the old feeling that it was necessary to supersede the queen, for conditions had hardly changed enough to take that idea out of their heads. But it is a common thing—probably much more common than generally supposed—for queen-cells to be started when a new queen is introduced. The bees have been without a laying queen—the queen in the cage is not to them a laying queen—she doesn't lay what seems to them a satisfactory number of eggs for some days after getting out of the cage, and what more natural than that the bees should think her a proper subject for supersedure? But before there is time for a young queen to emerge, the queen gets back to her full quota of eggs, and the bees decide that she is to continue in office. At any rate, it is the common thing for queen-cells to be started as they were in this case, and then to be destroyed before coming to maturity.

◆

Queenless Colony

I will call your attention to my robbing question on page 671. I did as you told me, and was very successful. The robbing stopped, and the queen laid nicely, but they had a few queen-cells which I cut out, and a few days later I opened the hive again and found the colony queenless.

1. Was it a mistake to cut out the queen-cells?
2. Is it worth while to introduce another queen?
3. What was the cause of the colony becoming queenless? and of so many queen-cells in the hive?

All the bee-keepers who saw my queen said I had a very nice one, and robbing was surely stopped 4 weeks before the queen was lost. PENNSYLVANIA.

ANSWERS.—1. If there was no mistake about a good queen being in the hive, it was all right to cut out the queen-cells. If no queen, then another could be reared from one of the cells.

2. Under all the circumstances like enough it would be as well to break up the colony and unite with others.

3. It is not entirely clear just when the colony became queenless. Possibly the robbers may have been the guilty parties, and it is possible the queen may have been accidentally killed when you had the hive open. The queen-cells would naturally be built on the death of the queen. It would also be nothing very unusual for queen-cells to be built upon the commotion raised by robbing.

Convention Proceedings

Northern California Convention

The Northern California Bee-Keepers' Association is the name of an organization which was formed at a meeting held at the Court House in Sacramento last Saturday. Quite a number of the prominent apiarists of northern California were present at the meeting, and all of them signed the roll of membership. The objects of the organization, as indicated in a resolution adopted, are the mutual benefit of the members, the advancement of the industry, the purchase of supplies, and the marketing of the product.

The meeting was called to order by B. B. Hogaboom, of Elk Grove, who was chosen temporary chairman, with Charles F. Lewis, of Oak Park, as Secretary. Mr. Hogaboom stated that the meeting had been called for the purpose of effecting an organization of the bee-keepers of the northern part of the State, provided that should prove to be the sense of the meeting. On motion of Mr. Stephenson, a list of the names of those present was made, together with the number of colonies represented, with the following result:

Irvin Myers, Franklin Jay Lewis and Charles F. Lewis, 250 colonies for comb and 250 for extracted; Lester B. Johnson, 250 extracted; J. D. Baker, 100 comb and 1,000 extracted; G W Stephenson, 12 comb; Thomas J Stephenson, 100 comb; B B. Hogaboom, 315 comb; H. M. Tyler, 250 comb; J. W. McDonald, 40 extracted; W. H. Baker, 80 extracted. There were represented a total of 1,277 colonies for comb honey and 1,370 colonies for extracted, making a total of 2,647 colonies of bees. This represents but a small portion of the bee-keeping interests of northern California, but there is no doubt that many of the other apiarists will come into the organization now that it has been formed. A number, indeed, have expressed their intention of doing so.

The general idea of those present was that organization would prove of great benefit to the industry in this section of the State, as it has in other places. It is proposed to collect the product of the members in warehouses in several places provided with good transportation facilities. The honey could then be marketed on warehouse receipts, and better prices be obtained for carload lots than when the bee keepers sell their output individually and in small lots. It is possible that later on a manager may be chosen to take charge of the marketing of the crop, the purchase of supplies and other business matters. The sentiment of the members is now, however, that it is too soon to take such a step. This is a detail which will arrange itself when the organization is in full working order and stronger than it is now.

The nature of the proposed organization was very fully discussed, the principal speakers being B. B Hogaboom, F. Jay Lewis, Mr Stephenson and others. John M. Rankin, United States Special Agent in Apiculture, Bureau of Entomology, stationed at Chico, was present and made a very interesting talk. He advised the bee-keepers by all means to organize, and assisted very materially in perfecting the organization.

It was decided that the local association should affiliate with the National Bee-Keepers' Association. The dues were fixed at $1 per year, half of which goes for membership in the National Association.

Election of officers resulted in the choice of the following: F. Jay Lewis, President; B. B. Hogaboom, Vice-President; Charles F. Lewis, Secretary and Treasurer. These, with Lester B. Johnson and J. W. McDonald, will serve as directors. They were instructed by the meeting to draw up a constitution and by-laws, to be presented at the next meeting.

Honey Crop in Northern California.

Conversation among those present developed the fact that the honey crop of the northern part of the State promised to be a very good one. On account of the unusual duration of the rains and the coolness of the season up to very recently, the crop will be about a month late, but prospects are that it will be satisfactory as regards both quantity and quality. Charles F. Lewis, Secretary of the Association, states that a failure of the honey crop of this section of the State has never been known. It is sometimes necessary to feed the bees during the early part of the season, as has been the case in some instances this year, but the final outcome is nearly always about the same.

Last year the honey output of Calirornia was a record-breaker, being over 10,000,000 pounds The 1906 crop will be very much shorter. In fact, grave fears are expressed as to their being any crop in the southern part of the State. The continued wet weather has put the bees back about a month, and they can not make this up in the south as they can in the northern part of the State. Most of the honey in Ventura and other southern counties is stored in the month of May or not at all. This year there was very little in that month. At present it is too early to estimate the probable output of the State. Conditions have improved very greatly within the past few weeks, and it is possible that earlier forecasts may prove to be somewhat under the actual output.—California Fruit-Grower, of June 30, 1906

NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill , Dec. 19, 20 and 21, 1905

(Continued from page 671.)

Mr. E. T. Abbott then addressed the convention as follows:

POULTRY-KEEPING FOR THE BEE-KEEPER

I want to say that I haven't any paper, neither do I intend to give you the kind of poultry talk that you hear every day. When Mr. Hutchinson asked me to take some part in the progam down in Texas, I suggested that he put me on for this talk instead of some bee-keeping talk that I had been talking all these years. This poultry talk of mine is not along the usual lines, and I do not know but what it would be just as well if I didn't give it all. I will talk just a little while along the lines I usually talk, and if you don't like that kind of thing we can easily enough change off. I remember Mr. Root heard me on this poultry talk once down in Missouri. He came in and sat down in front of me and dropped his head down, and put his hand over his eyes and looked fearfully discouraged, and I didn't know but what he was going to cry. Some time afterwards he straightened up. He said afterwards that it wasn't the kind of talk he was expecting, just as though I could teach A. I. Root anything about bees.

Poultry is a broad subject; it is much broader than you can discuss in one evening. There were two or three old hens up in Wisconsin, that got under a pair of stairs and began to scratch and scratch around the leaves and dirt, and after a while they scratched up some several thousand dollars, and the money was found and it got into the papers. I do not know whether or not you read it, but it was in every newspaper, almost, in the United States. Now, hens have been scratching up money all these years, which amounts in Missouri, I think, to something like forty millions every year; in other States they have been scratching up equal amounts, and nothing has been said about it. We have been looking all these years for something we could do in connection with bee-keeping. I will tell you what I do. I milk a Jersey cow and keep some fine poultry, and have for years, and I have been advocating that inbreeding for 10 or 15 years. When I first began to advocate it, like Mr. Holtermann, they said I was upside down, and I was talking nonsense, but I went on until I had some of the finest golden Wyandottes I ever had in my life, the most perfectly marked. The boys thought they were such a good mark for marksmanship that they killed them off.

The first secret of success is to know how, and in order to know how you have to study the hen. She is a peculiar creature. She has had but little study. The reason has been that men inherited a theory that in order to make poultry a success they must turn it over to the women, and as the women didn't know much they wouldn't expect them to accomplish much; it was a kind of a small, one-horse business and the woman was a kind of a small, one-horse affair, and it could all be turned over to her and it would be one-horse all the way through. The man didn't have much interest in it only when he wanted a little money to buy his tobacco, or to get something when he went to town, and then he went to the old woman's purse and got enough to buy a plug of tobacco or a drink. That is about all he knew.

Mr. York—That was in Missouri, wasn't it? [Laughter.]

Mr. Abbott—No, sir; all over.

The great secret of success in keeping poultry is to make the poultry comfortable. I want to give you some good rules that will work out in practice. Now in order to make a hen comfortable, the conditions and surroundings must be such as are adapted to hens. Some people think a hen has no feeling; they think it isn't an animal; it is a kind of automatic machine to grind out eggs and to eat for Sunday dinners; but there is a vast deal more to a hen. If you expect to get eggs—and that is all hens are worth—that is what there is in a hen, is eggs—if you can't get eggs out of the hen you can't get anything out. In order to get eggs out of the hens you must put eggs in. You can't get anything out of a hen you don't put into her. You put it in in the form of feed, and take it out in the form of eggs. And the food must be first, enough to nourish the hen's vital energy, and to build it up; and then there must be sufficient superabundance of food to make eggs, and eggs should always be in a hen, so that you have a circle. You feed a hen eggs in food, and the hen gives you other hens in eggs, and the circle keeps going around and around, but you must supply fuel to run the machine. There has to be eggs put into the hens and then you will get eggs out of the hens.

Somebody in "Gleanings" said: "Gleanings" always has things in it that are so, and things very wise, and sometimes, a small illustration. There was an old man, who, in his condemnation of his poultry business, said he had hatched

320 chickens and only raised 200. Now, a man who doesn't know any more about raising chickens and hens than that, ought not to go in the business. He ought to keep out of the poultry business and go to something else. Now, I say you must make the poultry comfortable and the first essential of comfort is a comfortable home in which the poultry can live. I experimented a little the winter before last to see if it were possible to increase the egg-production, and have a simple house that was inexpensive. I prepared the roost so that I could drop a curtain right down in front of it. They say hens should have air. I believe they should have some air. Every night I went out to my biddies, just like the mother puts the babies to bed; I went out with the lantern, and found them all lined up on the roost in a nice row, and they would talk to me, and I would pull down the curtain and they would stay there perfectly quiet till I went out in the morning; and in the morning one old hen was the first one to begin, and she would talk in hen fashion and get down off the roost ready for her food. I don't suppose they knew any different, and I don't suppose they appreciated it. The fool hen hasn't got sense enough to know when she is warm, but every day she laid an egg. The average farmer expects a hen to lay eggs under average conditions. I presume in Illinois 9-10 of the hens roost in trees, and 9-10 of the men think hens ought to roost about 40 feet, more or less, from the ground in the tree; and when the mercury is down 20 degrees below zero, that she ought to come out of the tree and hunt around in the snow for a dry place and lay an egg as a return for the kindly treatment she gets! Do you know what I would do if I was a hen and got that kind of treatment? I would swear by the eternals I would never lay an egg. You can't expect the hen to lay under such conditions. She couldn't lay if she wanted to, for it takes all of the hen's vital energy to keep herself warm and live, and she hasn't any extra vital energy for eggs.

EMERSON T. ABBOTT.

Then a word about the hen-roost. The old-fashioned roost was built up on an angle of 45 degrees, and the poles ran one above the other. In the evening when the hens went to roost those poles were loose at one end or the other, and, of course, if they are loose like that at both ends every hen will like the middle best; and every hen wanted to get on the top pole. Hens are a good deal like men, they want to get on the top pole, and when they are trying to get there they don't care a continental whom they knock off. And so the hens start up one after the other, climbing up one on top of another, and you hear them squealing and screeching, and all sorts of noises, and it takes the hens from one to two hours to get settled down, every time. Now, that kind of roost is not the kind of roost to build. The hen-roost ought to be on the level, just as all men ought to be on the level. If I could get the men reduced to proper hen-roost style I would accomplish more for humanity than anything else. We are always trying to climb up above some other. If we all had roosts and had to come home at night and get down on a level, can't you imagine what it would mean for humanity?

Now, then, if you want a hen to lay eggs you must keep her comfortable all the time, and I will tell you one of the things you must do. The average farmer likes a chicken for dinner. He doesn't have to cook it, he doesn't have to pick it; and he doesn't care how much his wife has to work on Sunday, if he can go out to the corner and tell yarns and chew and smoke and have a good time, and come back at half past one or two o'clock with half a dozen of his neighbors and have a good chicken for dinner and have a good, jolly time. He always wants a chicken for Sunday, but he never thinks of catching that chicken. He never thinks about getting the chicken ready. But Sunday comes and he says, Well, we better have a chicken to-day; John Smith is coming over from the store with me, and I think we better have a chicken.

Well, mother says, it is all right; she don't want to cross him; she knows what will come. She goes out; and every farmer in the country has two or three dogs—a little dog, a big dog and a dog between; the old lady picks out the chicken and says to the boy, "Do you see that old, yaller-legged hen; I want her for dinner." The boy says, "All right, I'll have the chicken." And he blows a whistle. The little dog comes, and he says, "Sick him, Tige. Do you see that hen." The hen starts, the boy starts, and the dog starts. Did you ever know one dog to start without all the other dogs joining with him? The middle dog joins in and the big dog and they run through the orchard, and through the barn, and through the cow-shed, and then run back and forth, and finally the old man joins in the chase, and the old woman comes rushing out, and the little dog is hot on the trail, and the hen comes to the fence, and she tries to go through a crack in it, and the old woman grabs the hen by the legs, and she whirls around, and she takes hold of the hen by the head and goes "whizz."

I take what she has done seriously. She has spoiled one hen for Sunday dinner, because a hen that is chased that way isn't fit to eat; and while the chase was going on, do you know what she has done with the rest of the hens in the place? There is the old hen looking out from behind a box, and there is the old rooster over there that looks out and cackles. Now if they have 300 hens they have done something more, they have lost 300 eggs, for a hen has the most delicate, nervous organism of any animal, almost, in existence, and under such circumstances she can not lay eggs. She won't stop right away, but that will be because she can't. If the farmer had 300 hens, the Sunday dinner has cost him 300 eggs, and if they are worth a cent a piece, he has paid $3 for the hen he had on Sunday that was not fit to eat.

The way to kill a hen, if you must kill them—I hate to kill my chickens—is to take her quietly off the roost in the morning, and when it is daylight, cut her head squarely off and drop her into a barrel out of sight and cover her up. My printing shop is right next to the hotel and they have chicken every day for dinner. Two brawny women come down there and they take those chickens and hack their heads off, and thrash them around in such a cruel way that it makes the chills run over me, and I feel sometimes as though I will never eat another chicken.

Now about the diseases of poultry. When I used to lecture in the Farmers' Institute they were always asking me about the diseases. There is only about one disease in poultry that is very dangerous. About the only disease we have in Missouri is roop; that is, the catarrh of the head, and it gets more aggravated until it gets into the lungs, and finally into the blood, and poisons the hen so that she is really not fit to eat; but if taken at the proper time it can be very easily cured. I can tell you how to cure roop. I say it is a disease of the lungs and bronchial tubes, and about the only way to treat it is wholesale. You can't afford to doctor single hens unless they are valuable.

You find the hens are getting diseased, and the way to tell is if they are snuffing. They call it pip, sometimes. You hear it on the roost at night. That is the danger signal. You want to get busy. Get you some sulphur and a kettle, and put some coals in it. Have your hen-house reasonably tight, and when your hens all get to roost put the kettle in the center of the house where you won't burn it up, and throw about half a pound of sulphur onto those coals, and then go out, unless you feel the necessity of the treatment yourself; if you do, stay in; staying in 15 or 20 minutes will do more towards curing catarrh or any bronchial trouble that you have than all the doctor's medicine you can take in a thousand years.

Now you can cure your hens by treating them in that way in two or three nights. If it has got so bad that it doesn't disappear, the best thing to do is to cure them with the hatchet; but don't eat them. When they die you throw them over in the alley and then the rest of the hens go and eat them and then you kill and eat the hens. You might as well have eaten the other fellow at the start. Every one of them ought to buried out of sight, so far under ground it would not be possible for these diseased germs to be carried to other chickens.

A Member—How do you kill vermin?

Mr. Abbott—In order to kill vermin, you must commence in time. You must not let the vermin get there. When you get a whole lot it is pretty hard to kill them; it is a serious proposition. But in order to kill the vermin you must put a little elbow-grease into your roosts; you must have your roost smooth; you must have your hen-house clean. Vermin hatches in the filth; they don't hatch on the hens; they hatch in the filth, and find their way to the hens. Keep the filth out of your hen-house and you won't have any trouble with the vermin.

On motion of Dr. Miller the convention adjourned.

Third Day—Morning Session.

At 9:30 p. m. Pres. Dadant called the convention to order, and called for reports of committees, but none being ready to report, the question-box was taken up.

SUGAR SYRUP FOR FALL FEEDING.

"What proportion of shrinkage must be expected in food made of sugar and water in equal parts for fall food?"

Mr. Acklin—Why not say one-quarter?

Dr. Phillips—I tried this and tested the syrup after it had been put in the combs; it had not been sealed, but it was in condition for honey. When I got through and tested the syrup it was 80 percent of it solid.

Mr. Holtermann—Do I understand Dr. Phillips to mean not a change in the specific gravity of the syrup, but there is no loss in weight in storing? If you feed 10 pounds of syrup the colony gains 10 pounds?

Dr. Phillips—I don't mean that. There is a decided loss.

Mr. Wilcox—According to his answer, isn't there a loss of 20 percent, in addition to the water put in?

Mr. Miller—You are taking half and half sugar, and water. When we make syrup, I think it is supposed that about 2 pounds of water to 5 of sugar will make something of about the consistency of honey.

Dr. Phillips—Honey is about 75 or 80 per cent solid. There is a little water of crystalization in sugar.

Dr. Miller—If that should be straight, 2 pounds of water and 5 of sugar, and if you have put in 5 of water and 5 of sugar, when it is evaporated you have lost just 1-3. I am not saying this is reliable.

Mr. Taylor—I think that is not the question. As I understand the question, when you give the bees 10 pounds of sugar and as much water as you please with it, how many pounds of sugar are there when it is stored in the combs? The bees consume some, and if there is any brood, they feed some to the brood; and my answer would be, it depends on circumstances. If there is a large amount of young brood, the loss will be greater. If it is fed slowly the loss will be greater; if it is fed rapidly, and there is no brood, the loss will not be very great.

Mr. Baxter—I would say this is all guess-work.

Mr. Kilgore—As I understand the question, if I have a colony of bees that is almost entirely without honey at the time of entering winter, how much syrup at half and half will I have to give them? When they have manipulated it properly, there will be the regulation quantity in there to winter, that which we considered to be about 24 pounds, and according to Dr. Phillips' test the waste would be about 1-5. In order to have 24 pounds in a colony to enter winter we would have to feed them 30 pounds, half and half.

Pres. Dadant—If they feed thin syrup it will still be thinner when in the cells for winter than if it had been fed thick.

Mr. Kimmey—I am able to state I have tried with 2 colonies, and I took 10 pounds of sugar and thoroughly mixed it with 10 pounds of water, and placed it in a strong colony to obtain capped stores for the winter colonies. With 20 pounds of syrup I got 14 pounds of capped stores. It was done late in the fall after the honey-flow was stopped, as I thought. That was a loss of about 33½ percent.

Dr. Miller—There are two questions: I got one, and Brother Taylor got another. I suspect he has more nearly the right one than I have, and, as he says, the thing will vary very greatly. If you take into consideration the practical question, it was probably intended to ask, how much will you have left for winter stores? It will vary according to circumstances, all the way from a very little loss to an entire loss of the whole business, if you feed it slowly enough. If you say you are going to feed fast, and ask how much you will have left, then you might get something with a definite answer. You feed so much, and you will have so much left, but be sure to put in a good deal more than you count on.

Mr. Kimmey—This was fed to a strong colony and fed all at once.

Dr. Miller—I should expect in that case of Mr. Kimmey's the bees fooled him, and were doing something on the sly, and got something elsewhere.

Mr. Wheeler—A great deal depends on another point, and that is, what time of the year you feed. If it is in a warm part of the season, when a great deal of brood-rearing is going on, a great deal more of the syrup will go into the brood.

Mr. Huffman—I can't just agree with that. As I understand the question, it is, what percentage of shrinkage there has to be when it is going to be sealed over.

Mr. McEvoy—It depends a good deal on the conditions of things. If there is a large quantity of food, and it is fed slowly, it will be nearly consumed; but if you limit the number of colonies and feed with a rush it will not; but don't have it too thin. It will be nearly a half.

Pres. Dadant—This question is misunderstood by some parties. Now, all that the gentleman wants to know in regard to this is, what proportion of sweet there will be in the feed, or in the cells, to what there was when he put it in? I think Dr. Phillips has understood it rightly, and told us the proportion that he found, 80 percent.

Mr. Aspinwall—Certainly, if he found 20 percent less there would be a loss that has gone into the cappings. If not capped over there would be a difference also.

Mr. Wilcox—The chemist has simply given us the percentage of sugar.

Dr. Phillips—This was sugar-fed, absolutely no honey in it, and 50 percent of water in the sugar when it was fed.

Mr. Aspinwall—If there was 50 percent of sugar and 50 percent of water, there couldn't be 80 percent of sugar afterwards.

Dr. Phillips—When this sugar was fed it was half and half sugar and water; when we were through and extracted the result, 80 percent of that was solid.

Mr. Holtermann—I don't think this question is one which should take up a great deal of time, because it is not a practical question. This syrup is too thin for practical purposes, to begin with. If I understand the question, it is, what is left, and if it is of any profit at all, that is the practical side of it.

Mr. R. L. Taylor read a paper on,

THE HONEY-PRODUCERS' LEAGUE

Fellow Bee-Keepers:—I say fellow bee-keepers, because what I have to say is for *bee-keepers*, and not for our members who belong to what some one has euphemistically called the "allied interests"; for, remember, that we have a strong element in our Association, not directly interested, or, at least, not primarily interested, in the production of honey. I refer to manufacturers of supplies, dealers in supplies and in honey, authors, publishers and editors of apicultural books and journals.

It is scarcely necessary to say that there are some phases of some topics that are of great concern to honey-producers, but of no special concern to the honey-dealers; and so of the others.

But I am compelled to go further and say that the business concerns of the allied interests are hostile to those of the honey-producers. Now, do not misunderstand me. I do not say there is any hostility between you—the honey-producers—and the representatives of the allied interests. Far from it. They are good men, strong men, and a necessary part of our Association. I am only calling attention to the fact that in some points our business interests clash. I would have you guard your interests as shrewdly as they guard theirs. They themselves, I am convinced, would not have you do otherwise, for they are upright men and at heart desire your prosperity. You do not always study your own interests as you ought. They, in a fatherly fashion, attempt to guide you, and you are too much inclined to follow blindly. But no man can serve two masters. It is not in human nature that they should adequately care both for your interests and their own when those interests clash. It is a sound principle of law that no man may be judge in his own matter. Burns sounds the same note:

I'll na say men are villains a',
But och! Mankind are unco weak.
An' little to be trusted;
If self the wav-ring balance shake,
It's rarely right adjusted!

You ask for concrete examples. Well, take this: Soon after the white clover season was over some of our leading journals came out with the usual advice to sell your honey early; that the early sellers got the best prices; and, forthwith, bee-keepers, where they had any crop, were tumbling over each other to get rid of their honey at any price.

The advice was bad for your interests in a year of scarcity, but disastrous in a year of plenty, for nothing is so ruinous as a glut in the market, unless it be the concomitant, to-wit: the piling up of honey in cold, damp warehouses to sweat and crack and become ruined. I don't question the honesty of the advice, but given, I doubt not, on account of a vision clouded by some conflicting interest. Dealing in honey may have been involved, or the desire to stir up the tyro to get rid of his honey lest he in his inexperience should neglect too long and so give up the business in disgust; for know that it is common to all the allied interests to aim to secure and maintain an ever-increasing constituency of bee-keepers. That this should be accomplished is obviously contrary to the interests of existing bee-keepers. We have room for all earnest, intelligent and stable students of apiculture, who turn in with us because they are birds of a feather. But the majority are not such. They come in thinking to make an easy fortune. They endure but for a time, play havoc with our markets, and then fall out by the way.

R. L. TAYLOR.

Perhaps there are no conditions in which the honey-producer must be more careful to use all his intelligence and caution than in dealing with jobbers and commission men. If you entrust them with honey, the grading is not right, or the tare is too little, or your weight of the honey is too much on account of which, or by some carelessness or negligence on their part, the true weight of your honey is not accounted for.

If you express any hestitation about intrusting them with with your goods—you have little faith in mankind; if you suggest some condition to test their faith in mankind, that is contrary to business principles.

In 25 years' experience I do not remember that I had one fully square deal at their hands, unless I either required prepayment or delivered the goods in person, until this year; and yet I believe they were honest men—self the wavering balance shook. This year I found the exception that proved the rule. Rather against my judgment, I made a considerable shipment because I lacked time to dispose of it as I have heretofore found most satisfactory. In due time, the report came that the honey arrived in fine condition, that the packing and grading were above criticism, with a check for a larger sum than my bill called for. Perhaps I ought to give the name, but he is present and such men are modest.

Another point! Some of you no doubt have already learned that in the matter of supplies your interests and the interests of the dealer are antagonistic. Some say the dealers in supplies have formed a trust to control prices, or at least have an understanding, that amounts to the same thing. But I am bound to say that as yet I am not ready to go so far, for to form a combine is unlawful, and therefore dishonorable, and I take them to be honorable men. And as yet, it is not to be denied that there are many things that seem to point to a combination. Once one could easily get a reduction from published prices, but now if he suggests it he hardly gets a civil answer. Then there is a constant tendency to crowd prices up unnecessarily. In the case of sections this is perhaps most noticeable. Not many weeks ago a manufacturer of supplies dilated in one of our journals on the outlook for sections. Timber was getting scarce and more costly, so that the price of sections must go up. Indeed, the prospect was that basswood and one-piece sections must go out, then four-piece sections must come in at another advance of 75 cents a thousand; and a sub-editor and a bee-keeper responds in substance, Let them go up; we can stand it.

But we can't stand it if they are not worth it, *i. e.,* if the profits are too high. I have what is to me satisfactory proof.

Within the last 18 months I have bought just 25 M. sections, partly one-piece but mostly four-piece. The dealer said he could let me have the one-piece at $2.70, but the four-piece did not cost so much to make and he could sell them at $2.50 a M., and those were the highest prices I paid. And this was not a sacrifice sale. The sections were not only all No. 1, but they were made to order.

One reason of the high prices is the branch houses, and the immense amount of advertising done by dealers. You pay for these luxuries without receiving any equivalent for your money.

Another curious argument is used to boom the price of sections. The honey-producer can afford to pay the prices because he gets a higher price still for them when he sells them with the honey. How millennium-like this would sound: Section comb foundation 15 cents a pound only, because the bee-keeper cannot get more than that when he sells it with the honey.

To illustrate how carefully the supply dealers belonging to the allied interests look after their own profits when the interests of the honey-producer intervenes, let me give one or two more items. Information comes to me from a manufacturer of a certain line of supplies that he was aranging to give members of this Association a large reduction in the price of his line of goods. When news of this movement got abroad, he was communicated with by a representative of a company prominent as supply dealers and members of the Honey-Producers' League, with the result that he was compelled to withdraw from the arrangement; the immediate consequence of which withdrawal was that for the time being at least you were compelled to pay for a line of goods much used by honey-producers, a price almost 50 percent higher.

Again, I am credibly informed that glass for shipping-cases could have been bought recently at the factory in small lots at $1.50 a box, but an extensive dealer also connected with the League, who no doubt buys much cheaper in large lots, sells the glass at $2.75 to $3.00 a box—almost, perhaps quite 100 percent on what he pays. No tender regard for the interests of the sweating honey-producer shines forth from profits of such magnitude.

But time and space fail, and what has all this to do with the Honey-Producers' League, anyway?

This League was organized ostensibly to create a larger demand for honey and to hunt down lies about it. But startling to tell, 5 of the 7 offices of the League are filled by men connected with the allied interests, and the strength of the League is from the same source.

So I have written all this to help inculcate the counsel of Captain Standish in Longfellow's "Courtship of Miles Standish":

"If you wish a thing well done you must do it yourself; you must not leave it to others."

If you neglect the counsel as he did, and send someone else to do your courting, you will surely lose Priscilla. Who is to be benefited by the working out of the plan proposed?

Would you expect to increase the consumption of wheat by advertising? But honey has been known as long as has wheat. Advertising cannot change the tastes of the people, nor increase their capacity for consumption, nor make honey a necessity.

The course proposed is admirably calculated to pique the curiosity and thereby lead many of the ultra optimistic who have a little leisure, to embark upon the apicultural sea. And that is for the good of the allied interests, and doubtless what they want. But do you honey-producers want it? I can see how it would decrease the price of honey, but I cannot see how it would tend in any way to increase it.

What has advertising done to influence the price of honey heretofore? Only the other day Mr. Doolittle, in an article, asks. Why the difference in the price of honey 30 years ago and now? He makes the reduction from 28½ cents to 10½ cents. He does not attempt to answer the question, but I can, and to my own satisfaction at least. It was about that time that the advertising of honey and the honey business began to assume some magnitude, and ever since the advertising has increased yearly and the price of honey has as steadily decreased.

One pretext for the organization of the League is that we need assistance in the disposal of our honey. I know of no such necessity. No one of experience has, I think, any difficulty in disposing of his honey. Insist on an unmanipulated market; ripen your honey well before moving it; get it to the consumer, or to some one directly interested in getting it to the consumer, and there will be no glut in the honey market.

We are informed, too, that the League is to chase the *ignis fatuus* of manufactured comb honey. In my opinion the longer it is pursued the bigger it will look. If let alone it will die. I never yet saw a person that even suggested that comb honey could be artificial. It is impossible for any intelligent person to examine a case of comb honey and believe that it might be artificial.

Traveling salesmen are charged with the lies. They are great jokers, and invent wonderful stories, and will repeat them so often and so long as they will incite or irritate or frighten any one. Disregard their stories and they will drop them.

But if the plans of the League were in all respects unexceptional, why divide our forces? Can any sensible reason be given for it? In division there is weakness. I only quote from an article of our president-elect when I say: The National Association is the proper channel through which all national reforms for bee-keepers should be secured.

R. L. TAYLOR.

Dr. Miller—Mr. President, we are told it is not a good thing to have someone else do our courting. I am not sure about that. I never got any body else to court for me I succeeded very well all alone, and on that account I suppose Mr. Taylor thinks every thing else ought to be done alone. But everything is not *courting;* there is such a thing as my doing something that nobody else might help me at. If I were to try to court a girl, and deputized one of you to go and see her, it is not assured at all that her affections would remain true to me; but if I owed a man $50, and some other man goes and pays $25 of that debt for me, will you explain how that is going to hurt me?

Let me throw some of the saw-dust aside and see what milk is in the cocoanut. Here a number of men got together and said to us, We want the truth told about honey. They got some $1,400 together, and they said what they wanted that used for was to create a larger demand for honey through advertising in newspapers and magazines, its great value as food, and by such other methods as may be considered advisable to the Executive Board. Also by publication of facts concerning the production of honey to counteract any misrepresentation of the same.

Now, do you object to an editor telling the truth about honey in his paper because he is not a bee-keeper, because he will do it free? Suppose he is one of these iniquitous (?) supply manufacturers, if he offers you money you are glad to have it in your Association. If he is willing to pay a dollar to get some editor to tell the truth about honey, don't you want him to do it? It seems to me this is all in the air, yet there is a feeling of that kind, and that these men said, We don't want any misunderstanding. I know I am the President of this iniquitous (?) concern under fire now, the chief devil of the lot, and I know that those men, unless they fooled me, were entirely honest in saying that the truth ought to be told. You were looking for their motives. Now I think I can understand them I confess there is a nigger in the fence I don't see. But I can see this, I think: Here is a supply manufacturer, a supply dealer, anything that hurts the bee-keepers to make less sale of honey or lower the prices of honey, hurts his business. If he can help bee-keepers by having the truth told about honey he is helping himself. If there is that sort of feeling, a new and better use can be made of that money. I am going to read you a resolution made before I knew whether Mr. Taylor was going to be on one side or on the other side:

"We, the Executive Board of Honey-Producers' League, propose (subject to the approval of the majority of the League's members) to turn over to the National Bee-Keepers' Association the funds now in the League's Treasury (about $1,300) provided that such funds when received by this Association shall be used for the purpose for which they were orginally contributed in the Honey Producers' League.

"Further, we would recommend, if these funds are so accepted, that a sub-committeee of the National be appointed to expend the same."

Mr. Holekamp—I am one of the Executive Committee or Board of the League. I am a bee-keeper, nothing else, and I believe in advertising, and I believe it takes more money than we can get out of the bee-keepers for this purpose, therefore, I thought it was a good thing if the supply men would help in this matter. The supply dealers are benefited probably more than we are through this advertising, inasmuch as the supply dealer can sell no goods unless we can sell honey at a profit. The more honey we can sell the more goods the supply dealer can dispose of. I don't believe the supply dealers in furnishing this money had any other thought than to increase the sale and price of honey for the bee-keepers, and therefore I was willing when I was asked to go on the Executive Board, to take this place. I had been asking to do more advertising to increase its funds. But after coming here I heard that there was a feeling that if there was anything done with it, it was unfair to the bee-keepers, and, therefore, it is probably better to have the matter done the way it has been proposed, and I voted in favor of doing this. I think we can help ourselves. I know it by my own feelings. I began keeping bees for pleasure, and I used to give my honey away, but my crop was so large I had to dispose of it. I didn't know what to do with my honey until I began to advertise, and, since I am advertising, people are getting the honey from my house. So I believe advertising does us good, and I do not believe the supply dealer has anything else in view other than the benefit that is to help us and to help themselves.

Pres. Dadant—In this matter, if we wish to take the proposal of The Honey-Producers' League, we cannot accept or reject it, but we can recommend to the Board of Directors of the National Association to accept it, or take a vote upon it through the members of the National. We are a very small percentage of the entire membership, and we can pass anything that will stand for the approval of the members. A motion made here, recommending the acceptance or rejection, as you see fit, will undoubtedly have an influence upon the Board of Directors. Therefore a motion now would be in order.

Dr. Miller—As a member of this Association, I move that we recommend that the proposition of The Honey-Producers' League to take over from them this money (some $1,300), to be used by us, and to have a committee arranged to expend it in the way proposed, be accepted and that this be recommended to the Directors.

Mr. Smith—I second the motion.

Mr. Wheeler—I sell honey in Chicago. I go personally to the trade, and in that way I get at the feeling of the people as some men do not. As far as I can see, and know, the people all know what honey is, and they know that the honey they are getting in Chicago labeled as pure honey is pure honey, and they know that the comb honey on the market is comb honey, and pure honey. If this honey is pure I don't think that the labels or printed matter sent out by The Honey-Producers' League, or this National, should bear the names in large letters of the officers.

Pres. Dadant—The question is whether they should accept or reject.

Mr. Wheeler—I want to tell you what The Honey-Producers' League has done. This League goes before the public with their circulars put into comb-honey supers, and saying so and so, and then at the bottom they put the name of somebody that is interested in the sale of honey the same as I am. I am a member of the League and of the National, and if this League goes into the National; and if the officers of the League are to be at the head of this department, and use their names there to advertise their goods, I am placed in competition with my own brothers in the same society.

Dr. Miller—I rise to a point of order. He is mentioning something that would not be the case.

Mr. Wheeler—I want to be placed on this market in Chicago on an equal footing with every member of the National Bee-Keepers' Association. I am willing to take my stand on my own goods and guarantee them, but I must not be put in competition with a man in the same society that I am supporting.

Mr. York—I think Mr. Wheeler said he was a member of the Honey Producers' League. I don't find his name on the list.

Mr. Wheeler—No. I said if the Honey-Producers' League joins the National I will be a member of both.

Pres. Dadant—No. The League will be destroyed.

Mr. Muth—If the National Bee-Keepers' Association takes that money and insists upon the names of all these Directors, then I would call that tainted money, and I would certainly be in favor of not accepting their money under any condition. I want to advertise my business, not Mr. York or Dr. Miller or the Lewis Company or Mr. Boyden, or any of the Honey-Producers' League or National Bee-Keepers' Association. I wouldn't have the money under any circumstances.

Mr. Johnson—As I understand this question, the effect of this motion, if passed or rejected will amount to this: Whether this Honey-Producers' League shall die right here and we shall take that money, or whether we wish them to continue on and try to do good in advertising honey. I am a member of The Honey-Producers' League, and I produce honey. I have no objection to the League. These people that have not paid anything, it does not cost them anything, and I don't see what objection they can have. The Honey-Producers' League can't harm in advertising honey, and I would like to wish them well, and let them go on and see what they can do.

Mr. Scott—I would like to ask a question: Who has ever intimated that the officers of the Honey-Producers' League should become some of the officers of the National Association? Who has ever intimated anything more than that The Honey Producers' League wishes to turn over the money to the National?

Dr. Miller—That Dutchman right there (Mr. Muth); he says if those names are going to be on, which is intimating those names will be on.

Mr. Kimmey—If I understand it, this money is offered us to use in a certain manner. I think we better accept the money first, and then after that if we are afraid we will be injured in our business by the names of the officers of the National Association being put upon the notices, that is a matter to be considered afterwards.

Mr. Hershiser—I have lost interest in this proposition since it was first presented to the bee-keepers, about a year ago; I haven't any really clear recollection upon the matter now, but at that time I couldn't see they were ever going to be able to help me. They proposed to raise the price of honey, as I remember it, but the point to which they proposed to raise it was below the point I am able to sell at. I believe if every bee-keeper will take the same pains to advertise his goods that some of us do, this League can not help them. As I see it, the far Western fellows are raising the price of their honey from 3 to 5 cents a pound, by bringing it down to compete with me; I don't want that done; if they will let me alone I will take care of that question.

Mr. Taylor—This Association has a constitution that provides for the expenditure of any money in their hands for the interest of the bee-keepers. Why is it necessary that there should be a condition put in this motion to embarrass the Association after it receives the money? We have a very distinct article in our Constitution that practically covers the same ground, and if this condition is put in, it will only give rise to further discussion and wrangling as to what is the meaning of the condition. I move that the motion be amended by striking out the condition.

Mr. Muth—I second the amendment.

Dr. Miller—The question is, why should you receive the money with the condition attached? Simply this: That money was handed to us for the express purpose which I mentioned to you—to be used for advertising. Now, if the money should be handed over to be used for some other purpose, the man who handed it to us for advertising would not have his wish carried out. If you won't take this gift on our terms, we won't give it.

Mr. Taylor—I want to put this motion in such a position that the Association can vote on it without a condition. If we adopt this motion without the condition it doesn't necessarily follow that we get the money. In the adoption of the motion in that form, if it should be adopted, they can refuse to hand over the money. It is simply a question as to the form in which this Association is willing to receive money. Do they desire to receive it with the condition, or untrammeled? It seems to me if we are going to have the money that the Association ought to have it so that they can handle it without being trammeled.

The question was called for.

The President put the amendment which on a vote having been taken was declared lost.

The President then put the original motion, which, on a rising vote, having been taken, was declared carried unanimously.

The Secretary read a communication from F. E. Brown, giving the report of the National Honey-Producers' Association, as follows:

To the National Bee-Keepers' Association Assembled—

GENTLEMEN:—As it will not be possible for me to be with you at this convention, and as chairman of your committee to organize a National Honey-Producers' Association for the marketing of our product, I take this opportunity to make my report.

I beg to say that the committee found that the producers of honey from every center are anxiously looking and inquiring for our sucess, and without an effort on our part, many hundreds of dollars were offered for stock as soon as it should be issued. However, we moved carefully and judiciously that the child born at St. Louis convention and named: "The National Honey Producers' Association of America," should have a good "constitution" to build upon; this matter the committee did much hard and effectual work on, but was greatly handicapped, being scattered from the Atlantic to the Pacific; this made the work go rather slowly, and as we were about to make a grand finish, with incorporation papers nearly ready to file, to our great surprise, something, or someone, gave birth to the League. While the latter is not a child of the National Bee-Keepers' Association, yet it is in her house under the same roof, partaking of the nutritious substances that should have gone to the National's legitimate child, until the committee could see no room for both to grow and prosper, and have decided to give away to the League. This is done with much regret, for, as producers of honey, we believe that better results would come to the bee-keeper if they should market their own products, rather than have it done by publishers and manufacturers. The one who produces honey, should also have *some say* what price he should get for it. This can only be done by associating ourselves together in a national way as bee-keepers, not as dealers. It is only natural that dealers, either individually or collectively, will strive to sell us, as bee-keepers, our supplies, and then to buy or sell our honey, thus dictating prices both ways. BEWARE!

Therefore we will have to give up another good work, allow another grand opportunity to pass by, which we fear will not soon again return.

Respectfully submitted,
F. E. BROWN, *Chairman.*

Mr. York—I think Mr. Brown is mistaken, because the League did not interfere with the National Association.

REPORTS ON INCORPORATION.

Mr. Abbott—The majority of the Committee on Incorporation of the National Association have decided that it is not wise to incorporate under present conditions. The Committee is composed of 5, and 2 were in favor of incorporation and 3 against.

REPORT ON EXHIBITS.

We, the committee, find the following articles on exhibition:

By N. E. France—Samples of 60 kinds of honey from nearly every State in the Union; also from Japan, Portugal and Peru.

Mr. Clyde Cady—Section honey in pasteboard sections.

R. F. Holtermann—12-frame Langstroth hive, with portico, and screen for moving bees—double door for ventilation, cell-detector and packed cover.

The A. I. Root Co.—Full line of bee supplies.

Twin Baby Nuclei, by Arthur Stanley.

Twin Baby Nucleus, by A. K. Ferris.

Hive by Doland Sherburne.

Wax-extractor by O. L. Hershier, with 1½ pounds of wax from 18 pounds of slumgum, from the German wax-press.

A selection of comb and extracted honey by Louis Werner.

A hive by unknown exhibitor.

Super of honey by unknown exhibitor.

Samples of honey in 4 x 5 sections by Theodore Fluegge.

Seven-inch comb-honey case of 24 sections, N. E. France.

MORLEY PETTIT,
A. K. FERRIS,
E. J. BAXTER,
Committee.

REPORT ON RESOLUTIONS.

Resolved, That the National Bee-Keepers' Association in convention assembled do hereby tender a vote of thanks to the Chicago-Northwestern Association and friends for the fine hall and accommodation for the entertainment of this convention.

Resolved, That the convention tender a vote of thanks to all who have prepared papers for this meeting.

Resolved, That this convention recognize the great help which Federal and State Government can accomplish by bringing the people the value of honey as a food, and the method of utilizing and keeping the same and in connection therewith, we would heartily approve of the issue of such bulletins as No. 140, on "Uses of fruit, vegetables and honey," issued by the Department of Agriculture for Ontario, Canada; and that a vote of thanks and appreciation be tendered the Honorable Nelson Monteith, Minister of Agriculture for Ontario, Chief of the Department, and that a copy of these resolutions be sent to him.

Resolved, That it is the sense of this meeting that the Board of Directors be requested to publish the pamphlets directed to be published at the meeting of the National held at St. Louis last year.

Mr. France stated that the pamphlets spoken of were referred to at page 74 of the report of the St. Louis convention.

Pres. Dadant put the motions to approve the various resolutions presented, which votes having been taken, were declared carried.

REPORT ON AMENDMENTS.

The committee have put their report in the form of a question as follows: "Is it advisable to divide the territory of the National Bee-Keepers' Association into districts and have each district elect one director?"

What will you do?

Mr. Holekamp, in speaking to the motion, suggested that if the country were divided up into 12 or more districts, as might be considered advisable, and have each district elect a delegate who would be expected to look after the welfare of that district, and to look after the increase of membership, that he believed much more good would be accomplished than was being done at the present time. He thought the membership could within two years be made 10 times as large as it is at present.

Mr. Moore supported that view and presented the following resolution, duly seconded:

Resolved, That it be the sense of this convention here assembled that we recommend that it be an amendment to the Constitution, that there shall be a representative upon the board for each State in the Union, and for each Province in Canada; the resolution to be submitted to the membership in proper form.

Mr. Hatch was in favor of decreasing the number of members upon the Board of Directors rather than increasing it.

Mr. Kluck expressed the opinion that if a Director were elected from every State in the Union that the Association would have a body so cumbersome that they would not accomplish anything.

Mr. Moore stated that he thought it would meet the views of every person to add to the general motion that the Board of Directors shall elect from among themselves an Executive committee, one for each 10 members of the Board of Directors.

Sec. Hutchinson stated that he did not see any use in having directors that did not direct; he thought it would be a good thing if the territory were divided into districts, and every State which had 200 members would elect a director, and every group of adjoining States making up 200 members, would elect a director; that he would support such action.

Mr. France stated that the Association did not want any larger Board than they at present had, but he suggested that the territory be divided up in proportion to the number of members, and if that was done something would be accomplished.

Mr. Abbott moved that the following be substituted for the motion before the house:

Resolved, That a committee of 3 be appointed by the chair, one of which shall be from Canada, to divide the United States and Canada into as many districts as there are now Directors in the National Association, having as near as possible an equal number of members from each district, according to the Report which is about to appear, and that thereafter these districts be permitted each to elect their own director.

After some discussion the President put the motion to substitute Mr. Abbott's resolution for the resolution offered by Mr. Moore, which, on a vote having been taken, was declared carried.

Some further discussion followed on the substitute after which Mr. McEvoy moved, seconded by Mr. Taylor, that the motion be laid on the table.

The President put the motion, which, on a vote having been taken, was declared carried.

(Continued next month.)

Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when sample copies. Then you can very likely afterward get writing us on other matters.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued recently. The complete new 344-page book, bound in cloth, is sent postpaid for $1.00; the Appendix alone for 10 cents. Or, the book and the American Bee Journal a year—both for $1.80; the Appendix and the American Bee Journal a year in advance, $1.00. Send al orders to the American Bee Journal office.

Reports and Experiences

Bees Have Done Well

My bees have done very well this season. They have 3 or 4 hive-bodies stacked on, and they are all full of honey. I have had no time to attend to my bees properly, and so have taken no honey off yet.

L. C. Medkiff.

Oceanville, N. J., Aug. 23.

Swarming in August and Later

I am now having prime swarms every day. As my bees rarely omit the afterswarms when they "prime" once, and as it is the 14th now, I seem to be booked for worry and watching clear through August, if not into September.

Toledo, Ohio, Aug. 14. E. E. HASTY.

Poor Honey Crop

The honey crop is poor. I got good results early from locust and white clover, but after June 20 the flowers yielded no nectar, on account of change in atmosphere. This same thing occurred last year, just 5 days later.

Green Mount, Md., July 31. H. H. FLICK.

Worst Honey Failure

I have 16 colonies of bees, and have not had a swarm this season. I have not seen a live drone in my yard this year. It has been the worst honey-failure I ever saw. There are lots of bees in this locality, but I have not heard of a pound of surplus honey being taken yet.

E. S. CAMBY.

Eureka, Ill., Aug. 25.

What Determines the Sex of a Queen's Eggs?

Whether a drone hatches from an egg which has been fertilized, as was suggested on page 719, I do not know. However, there are some things that are rather apparent. When a queen thrusts her body into a worker-cell it fits her snug enough to bring it in a position so that the egg receives a certain fertilizing fluid which makes it hatch a queen or worker. While a drone-cell, being larger, allows of a more free course or passage of the egg, it does not receive the certain treatment which the other egg does, and hence hatches a drone. It is possible to find out a great many things about bees yet.

SEPAL.

Honey-Dew from the Oak-Trees

The letter from Mr. C. P. Dadant, on page 553, concerning "Honey-Dew Without Aphides," encourages me to send the following communication. Only after having seen that a gentleman of such high standing in bee-culture as Mr Dadant wrote the referred to communication, I feel encouraged to give for publication what follows:

As already said in my report about our crop prospects here in Southern California (page 563), we have had most extraordinary weather from Jan 1 till even now. For 12 years I have kept a daily weather record, and by comparing dates I have become convinced that such peculiar weather conditions have not as yet existed in the 12 years referred to. The weather was unusually cloudy and cold all through April and May. I was much surprised to find that the insect world this year was exceedingly poorly represented, there being hardly any ants, wasps, spiders, bugs or beetles worth speaking of, when, in other years, and especially in 1905, they were so abundant. I incline much to the opinion that all suffered in the same or a similar way from the cold during the nights, as it was with the bees in many locations when the brood got chilled; and others may have been drowned by the exceedingly heavy rains.

Now as regards *honey-dew*. I have made the identical observations as described by Mr. Dadant, yet not being a professor of entomology, I did not feel as if I should come out with my observations; but now that Mr. Dadant has been first to report about it, I will tell what I have repeatedly seen here.

There are some 30 or 40 big oak-trees (we call them "live oaks" here) near my apiary and house. Many a cold morning, even before the sun appeared, I have been surprised to see the bees working on the leaves and small acorns; also drops of this dew I have noticed plentifully on the ground, herbs and dry leaves lying on the ground, and seeing that my dogs carefully kept away from these 3 or 4 trees, presumably fearing the bees, my attention was drawn to this dew, and I have repeatedly tasted it, finding the taste exactly such as described by Mr. Dadant. I even had in mind to send a few samples, but gave it up, as the long distance from here to the East did not warrant it. And, further, I have been unable to find a single aphid or any leaf or acorn that had a "dewdrop" on it, and even now I can not see any aphides on these trees. The bees have worked on these oak-trees from early in the morning until late at night, *i. e.*, on such days when the sun did not break through the fog or clouds (and, unfortunately, there were many such days).

I even go *so* far (perhaps I am mistaken) as to lay a peculiarly *harsh* taste, which I noticed in some of my honey-sections, to the predominant quantity of this honey-dew or "miellee." This harshness is very much like that of pepper-tree honey.

Even yesterday (July 11) I again found this honey dew, although the drops were much smaller in size, and not so plentiful as during April and May. DR. PHIL. MAX BOELTE.

Valley Center, Calif., July 12.

Bees Did Very Well

Bees in this part of the country have done very well this year. My home apiary has stored from 1 to 5 supers of comb honey, mostly from red clover. I have 2 out-apiaries, and they didn't do very well.

THOMAS POUPPIRT.

Basehor, Kans., Aug. 9

Poor Country for Bees

Honey is coming in very slowly here in Virginia. I have 1 colony, however, that has gathered 45 pounds of comb honey. I have 8 colonies at present. Virginia is a very poor country for bees or money. HENRY STARK.

Jefferson, Va., July 28.

Bees Did Well

Bees have done well in this locality. Some of my colonies have filled 4 supers. They have worked continually from fruit-bloom until July 20. Buckwheat and sweet clover are about done blooming. I look for a good honey-flow the last of this month and September, as we have the yellow blossoms, and late buckwheat and heartsease.

GEO. E. MORAN.

Earlton, Kans., Aug. 6.

Some Honey and Prospects Good

I took out of the cellar 30 colonies of bees on April 7, 1906, and lost 7 afterwards. I have 45 colonies now, and also a lot of good honey. The prospects are good at present.

JOHN COATES.

Dunn Co., Wis., Aug. 3.

Heavy Extracting Combs of Honey

In taking off extracting stories this morning, I noticed some very heavy—in fact, so heavy they called for the wheelbarrow. I placed one on the scales to see about what it contained, and it tipped the scales at 116 pounds. This was a single story with 11 combs in it. The empty combs weighed 23 pounds, leaving 93 pounds of honey—all snow-white.

If there is any other bee-keeper who can show a greater weight of honey in 11 combs, I would like to hear from him.

Jackson county has a fair crop of honey.

Jackson, Mich., Aug. 3. W. D. SOPER.

Abundance of Clover

There are very few bee-keepers in this locality, although we have an abundance of clover—red, white and alsike. I have taken off 72 pounds of honey so far, and expect to get about 4 or 5 more supers full from old colonies, but will not get any from this year's swarms.

I read the American Bee Journal with great interest, and could not keep bees without it.

I winter my bees on the summer stands. I just put a little tarred paper around them to keep the rain off, of which we have plenty in the winter here in Oregon.

O. J. PETERSON.

Astoria, Oreg., Aug. 3.

60 Tons in 1905—This Year Only 6

Our honey season is over. Last year we had 60 tons of honey, and only 6 tons this year; and have 1000 colonies in 3 apiaries.

J. F. MCINTYRE.

Ventura Co., Calif., Aug. 2.

Bees Doing Fairly Well

My bees are doing fairly well. I had 11 colonies, spring count, and hived 3 swarms for myself and sold 2 to a friend. That is all the swarming I have had so far. I have taken 150 pounds of comb honey already, 44 pounds from 1 colony in a double chaff-hive, and the supers are about all full at present. I sell all my honey at home at 20 cents a pound, and have no trouble to dispose of it.

I can not be without the American Bee Journal, for there is where I get most of my information.

We have a very wet spell at present, and expect a good fall honey-flow.

GEO M. SEIFERT.

South Bethlehem, Pa., Aug. 4.

A Guess at Non-Swarming Secret

I would like to make a guess at that new kink of Davenport's, for curing the swarming fever. My guess is that he requeens the colony with a virgin, the particular *modus operandi* likely being about as follows:

First visit, removes the old queen and places a caged virgin in the hive; and second visit, releases the virgin.

I note he says there is no searching for queens nor removing frames, yet it is evident he gets her from what he says in answer to Mr. Philbrook, page 603.

If it is desired to let the colony requeen itself instead of the caged virgin, a queen-excluding honey-board may be slipped in under the hive on the bottom-board and allowed to remain until a virgin hatches and settles the difficulties.

Of course, I am only guessing, but I thought I would give the fraternity an idea to work on. I have noticed that this kind of requeening works like a charm for me when successful, but I am not expert enough to get there in proper shape every time.

It seems that at this particular time (swarming-time) the bees have very erratic notions about their queens—in fact, a desire on the part of some of the bees to supersede the queen seems to be a large factor, if not the principal incentive to create the swarming impulse, and they are after young, vigorous blood—"A virgin, if you please. We are tired of the old mother."

Davenport says, "No searching for cells." Of course, a buxom young virgin will attend to that better than any man, provided she is duly installed and gets there before any of the cells begin piping. I have noticed that each cell has a concourse of bees that seem to have their hearts set on that particular cell, and all the force of their darling affections is aroused when the cells begin piping. The only hitch is to know the times and seasons, and be able to read the symptoms. I do not know how Davenport determines that the time is ripe for treatment without looking for cells, but I would judge it would not be necessary to wait for cells. The advancement of the season, the age and condition of the old queen, the congested condition of the colony, the demurely looking aspect of the bees, etc., I would think would be sufficient to warrant the treatment in anticipation of what was likely to follow, and perhaps it would be easier to introduce a strange queen (virgin) a little in advance of cell-construction. I don't know; I never tried it just that way. My plan—a plan I have followed in a few cases—is to introduce a cell.

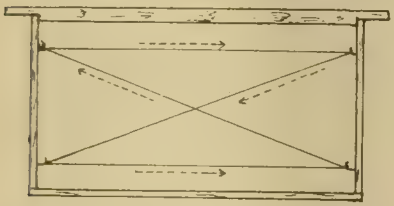
I have no secrets in the bee-business. I greatly appreciate the bee-papers. I feel very grateful to the Editor and all the writers for the assistance they have given me. I never expect to be able to tell enough to repay them. If I could I would gladly do it a thousand times over. If I were in Mr. Davenport's place, I simply could not rest easy, that's all. Out with it, Mr. Davenport. Peace of mind is better than all you will ever gain by secrecy.

W. T. CARY.

Wakenda, Mo.

Method of Wiring Brood-Frames

Here is my method of wiring frames: Nails 7/8-inch long are driven through the end-bars 1/2-inch from the upper and lower ends of the end-bars, and bent into a hook with small pliers. The wires will not spring the end-bars then, nor will they cut into the wood and become slack, but will remain as you leave them.



G. BOHRER, M.D.

Lyons, Kans.

A Beginner's Experience

Bees did well. I am a beginner in bee-keeping. Last spring at the opening of fruit-bloom I had 4 colonies, of which 3 were in bad condition, and being afraid they would not do well I united the 2 into 1 hive with success. The 2 other colonies being in good condition I started in with 3 colonies, from which I got over 200 pounds of comb honey. I now have 4 colonies, as I had last spring, by increasing 1.

I would like some experienced bee-keeper tell me how I can make an increase next summer to about 15 or 16 colones, provided these 4 colonies winter well.

WALTER M. ADEMA.

Berlin, Mich., Aug. 2.

A Dry Summer

My colonies came through last winter with very little stores and few bees. I lost over half of them, yet I fed all winter with outdoor feeders. Had I not done so the loss would have been much greater. I have had no swarms this year. I have run for extracted honey mostly, and have a fine lot of nice, white honey ready to take off. It has been very dry here this summer, and the result will be we will get but little dark honey, as there is very little heartsease to be seen anywhere. The third crop of alfalfa is now coming on nicely.

J. J. MEASER.

Hutchinson, Kans., Aug. 4.

CONVENTION NOTICES.

The Southern Bee-Keepers' Association will meet in Atlanta, Ga., Oct. 11 and 12, 1906, during the State Fair, on the Fair Grounds. All interested are invited to attend.

JUDSON HEARD, Sec. and Treas.
J. J. WILDER, Pres.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

Michigan.—The second annual picnic of the Northern Michigan Bee-Keepers' Association will be held at Petoskey in the Petoskey Park—directly east of the Arlington Hotel—Wednesday, Sept. 12, 1906. Our first was a decided sdccess and we want this to be as much so. Come, and bring a full basket and bring your family and ask your friends also, and spend a day in the beautiful Petoskey. Write E. E. Coveyou, of Petoskey, for any information regarding same.

IRA D. BARTLETT, Sec.

The Western Illinois Bee-Keepers' Association will meet at the Court House (County Court room) at Galesburg, Ill., Thursday, Sept. 20, 1906. We have had such a very poor honey year that many are discouraged, but remember we have all the more need for a good, lively convention. The dry year of 1901 was followed by two exceptionally good years for bee-keepers. None of us was ready for them. Let's get all the information we can, and get ready for the good years that are coming. Messrs. C.P. Dadant, George W. York and J. Q. Smith have promised to be with us, and you wlil all be made welcome if you come. Don't miss this convention. Come and bring your wives with you. Meeting begins at 9 a.m. and lasts all day.

J. E. JOHNSON, Pres.
E. D. WOODS, Sec.

Missouri.—The annual meeting of the Missouri State Bee-Keepers' Association will be held at the Circuit Court Room at Marshall, Mo., Oct. 2 and 3, 1906. All bee-keepers are invited to attend and to join the Association. This is going to be an important meeting, as steps in preparing for the canvass of the State in the interest of the foul-brood bill to be brought before our Legislature at its session next January are to be considered. Elaborate preparations are being made by the Saline County Bee-Keepers' Club for the reception of bee-keepers, and badges are being prepared, and will be sent to all those applying for them to the undersigned Secretary, or to Mr. M. E. Tribble, at Marshall, Mo., Secretary of the Saline County Bee-Keepers' Club, to facilitate the reception committee in taking care of the bee-keepers on arrival of the trains. Hotel accommodations can be obtained at reasonable rates, or board and lodging can be secured at 50 or 75 cents per day at private boarding houses, for those who will write to Mr. Tribble, asking him to arrange for them. There are over 41,000 bee-keepers in Missouri. Let there be 1000 of them at Marshall, Oct. 2 and 3.

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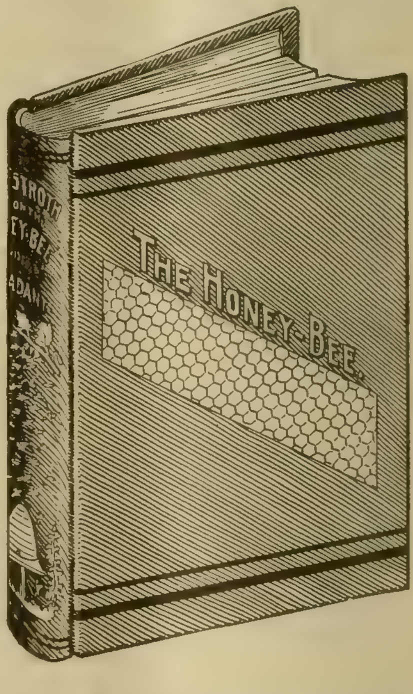

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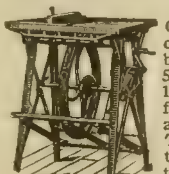

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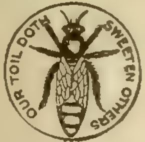
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Marshfield Hives and Sections

kept in stock; none better. **Dittmer's** Foundation and all kinds of Bee-Keepers' Supplies sold right. Thousands of Shipping-Cases, 24-pound, 13c; Fancy White Basswood, 16 cents. **Honey** and **Beeswax** wanted. Send for free list, and save 20 percent on your order.

W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order Address,

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

☞ J. G. Goodner, of this State, writes me that "he prefers to pay $25 00 for a Rietsche Press rather than do without it."—A. G.

Mention Bee Journal when writing.

"It is continuous advertising that impresses the public with the stability of a firm."

Rose Lawn Queens

"Beauty is Skin Deep" Results Count

A customer in Pennsylvania writes: "The Pure Gold queen you sent me has 9 frames full of sealed brood. I would not take $100 for her. Send me another like her."

From an Indiana bee-keeper: "I have handled queens for 20 years, but the Golden you sent me is the largest, finest and most prolific I ever saw. Please send me 3 more as soon as possible."

From Illinois: "I never saw bees work Red Clover until to-day when I counted more than 20 on Red Clover blooms in my yard. They came from the hive containing the Red Clover Queen bought of you."

Plenty of these queens for you. Get good stock. A request will bring cage containing sample workers of any race we have.

Requeen now and have plenty of early brood next spring.

Italians and Carniolans—Untested, 75c; 6 for $4. Tested, $1; 6 for $5.

Caucasians and Banats—Untested, $1; 6 for $5. Tested, $1.50; 6 for $8.

ROSE LAWN APIARIES,
33A4t STA. C. LINCOLN, NEB.

Mention Bee Journal when writing.

'If Goods are wanted Quick, send to Pouder'

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

EARLY ORDER DISCOUNT During September I will offer a discount of 7 percent on Supplies for next season's use. In October the discount will be 6 percent. Cash must accompany order.

WALTER S. POUDER
513-515 Massachusetts Ave., — INDIANAPOLIS, IND.

BINGHAM 'Original Direct Draft CLEAN Bee Smokers

4 Largest Sizes Soot Burning

Pat'd 1878, '82, '92 & 1903.
Never Go Out
And last from 5 to 21 years

Tin 4-in. Smoke Engine	3½-inch	3-inch	2½-inch	2-inch Wonder
$1.50.	$1.10.	$1.00.	90c.	65c—per mail.

Sent on receipt of price per mail
T. F. BINGHAM Farwell, Mich.

OTISVILLE, PA., Jan. 15, 1904.

Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

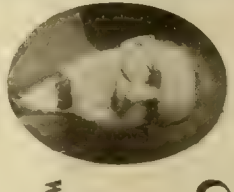
Mention Bee Journal when writing.

SPECIAL OFFERS for Sept. and Oct. ONLY

Cloth-bound Dollar Books for 60 cents each

ALSO

A 75c Book and a 75c Queen for 25c each when taken with the American Bee Journal as offered below:



DR. MILLER

(To either New or Renewal Subscribers.)

DOOLITTLE

No. 1 The Bee Journal a year with Dr. Miller's cloth-bound "40 Years Among the Bees" (book alone $1)—both for $1.60.

No. 2 The Bee Journal a year with Doolittle's cloth-bound "Scientific Queen-Rearing" (book alone, $1)—$1 60.

No. 3 The Bee Journal a year with Doolittle's leatherette-bound "Scientific Queen-Rearing"—(book alone, 75c—$1.25

No. 4 The Bee Journal a year with a Standard-Bred Italian Honey-Queen (Queen alone, 75c)—$1.25.

☞ Remember, that each is a separate offer, and **must be taken before Nov. 1, 1906,** if you want the advantage of these special prices.

If more of the same kind of Queens are wanted, order at these prices during September and October: 3 for $2 00; 6 for $3 75; 12 for $7 00. **Now is the time to re queen.** Or, we will send 1 Queen **Free as a Premium** to any subscriber (whose own subscription is paid up at least to the end of 1906), for sending us $1.00 and the name and address of a **NEW** subscriber for 1 year.

A free sample of the Weekly American Bee Journal on request; or a "**trial trip**" of 3 months (13 copies), sent for only 20 cents. Regular price is $1 a year. Address,

GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.

☞ All our Special Offers always apply only to the U. S. and its possessions, Canada, Mexico and Cuba.

THE POULTRY DIGEST

An Enterprising, Pushing and Progressive Poultry Journal. A live and instructive Periodical Different From All the Rest.

True to name, a concise and boiled down digest of all the doings in the Poultry World—A time-saving periodical; methodical, to the point, and conservative.

IF you want to make more money out of your fowls.
you want to get good results with less hard work.
you want to learn how to save your little chicks.
you want to know what to do each month in the poultry yard.

Send in your subscription to the
POULTRY DIGEST PUB. CO.
36Ctf 18 ROSE ST., N. Y. CITY.

Mention Bee Journal when writing.

Please Mention Bee Journal when writing advertisers.

Bee-Keepers

If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to
20Atf **A. COPPIN, Wenona, Ill.**

WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash**
M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

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BEE-SUPPLIES

We manufacture everything needed in the Apiary, and carry a large stock and greatest variety. We assure you the best goods at

LOWEST PRICES

and our excellent freight facilities enable us to make prompt shipments over 15 different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the

Alternating, Massie, Langstroth and the Dovetail Hives

Our prices are very reasonable, and to convince you of such we will mail you our free illustrated and descriptive catalog and price-list upon request. We want every bee-keeper to have our Catalog. **SPECIAL DISCOUNTS now.** Write to-day.

Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.
T. B. Vallette & Son, Salina, Kan.

Catalogs issued in English or German.

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Just Received a LARGE CONSIGNMENT OF

Second-Hand 60-lb. CANS

— Two in a Case. —

The cans are just as good as new, and we are offering them for quick sale at the following prices:

In lots of 5 cases of 2 in a case....50c a case
" 10 " 2 " ....45c "
In lots of 25 cases of 2 in a case....40c a case
" 50 " 2 " ....35c "
In lots of 100 cases of 2 in a case............32c a case

GRIGGS BROTHERS, 521 Monroe St., Toledo, Ohio

25A6t **Mention Bee Journal when writing.**

Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of **SUPPLIES.** Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
17A26t 138 N. Pleasant St., NORWALK, OHIO

Mention Bee Journal when writing.

Seeds of Honey-Plants

Seven heads Turnips, Motherwort, Catnip at 5c per package, postpaid; 24-lb. Shipping Cases complete with glass, 14c each.

H. S. DUBY, the Bee-Man, St. Anne, Ill.

26A13t Please mention the Bee Journal.

BEE-KEEPERS

Send for our 1906 Free Illustrated Catalog. Good Goods, Low Prices and Prompt Shipments are what you get if you send your orders to—

PAGE & LYON MFG. CO.
New London, Wis.

Italian and Caucasian

BEES, QUEENS, AND NUCLEi

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen.....	$ .65
" Tested Queen.......	.90
" Select Tested Queen	1.10
" Breeding Queen.....	1.65
1-comb nucleus (no queen)	.80
2 " " "	1.40
3 " " "	2.00
1 Un. Caucasian Queen,	1.25
1 Tested " "	1.75

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

J. L. STRONG
16Atf 204 E. Logan St., Clarinda, Iowa.

Italian and Caucasian Queens

A special discount is offered on all Queens and Bees ordered to be delivered before the close of the season of 1906. Pure stock, pure mating, and excellence in grade guaranteed. Address,

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R. F. D.

Queens Now Ready to Mail

None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

GRANT ANDERSON,
20Atf SABINAL, TEXAS.

COILED SPRING FENCE

Closely Woven. Can not Sag. **Every wire** and **every twist** is **a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

30 DAYS FREE TRIAL

and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made--how it is galvanized--why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 85 **MUNCIE, INDIANA.**

Mention Bee Journal when writing.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

—FOR HIS—

" Bee-Keeper's Guide."

Liberal Discounts to the Trade.

CAPON
TOOLS

Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor	25c
Poultry Marker.......	25c
French Killing Knife	50c

Capon Book Free.

G. P. Pilling & Son, Philadelphia, Pa.

Special Summer Tourist Rates

via Nickel Plate Road, to Canadian and New England points. Fifteen day limit one fare plus Two Dollars from Chicago; thirty day limit, one fare plus Four Dollars from Chicago. On sale September 5th and 19th. For reservation of sleeping-car berths, etc., write or call at City Ticket Office, 107 Adams Street, Chicago. 26—35A3t

Gloves for Handling
BEES

Something New.
Something You Want.

Our specially prepared Gloves soften the hands and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff. We furnish them without armlets or sleeves for using in sweeping, gardening or general housework, driving or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white.

All the points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail, or with other goods, at the following low prices:

Bee Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies	.35
Men's Gauntlets, fleece-lined	.35
Ladies'	.35
Ladies', unlined, for wearing at night or during doing light housework	.40

Early Order Discounts on Bee-Supplies (excepting above and a few other articles) as follows:—

7 percent for cash with order before Oct. 1st
6 " " " " Nov. 1st
5 " " " " Dec. 1st
4 " " " " Jan. 1st
3 " " " " Feb. 1st

If you haven't our 1905 catalog, send for one and a free copy of the American Bee Keeper (50c a year. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

WANTED—HONEY

White Clover Extracted and Comb. Mail sample and state lowest price expected, delivered in Cincinnati. We pay cash on delivery.

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

Chicago, Aug. 6.—There is now offered some good lots of comb honey, and while the trade in it is not active, it is taken at 15@16c for fancy, 14@15c for No. 1, 12@13c for fancy amber, and 8@10c for fancy dark. Extracted is slow of sale with prices according to quantity and quality. White extracted, 6½@7½c; amber, 5½@6½c; dark, 5@5½c. Beeswax, 30c.

R. A. Burnett & Co.

Toledo, Aug. 20.—The market on honey has not changed much since our last quotation. Bee-keepers seem to be holding their goods expecting large prices. Fancy white comb brings in a retail way 16@17c; No. 1, 15@16c, with no demand for dark. Extracted white clover, in barrels and cans, brings 6½@7c; but very little has been offered as yet. Beeswax, 26@28c.

Griggs Bros.

Indianapolis, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.

Walter S. Pouder.

Philadelphia, Aug. 9.—Advices from different points are rather conflicting in regard to the honey crop this season, and, consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission.

Wm. A. Selser.

New York, Aug. 18.—There is a good demand for new crop comb honey, but arrivals are very small as yet, and will continue so for a week or two to come. We quote fancy white at 15c; No. 1 white at 14c; No. 2 white at 12c; it is too early as yet for dark or buckwheat. Extracted is in good demand at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Southern, common average grade, 50@55c per gallon; better grades at 60@65c. Beeswax firm at 30c.

Hildreth & Segelken

Cincinnati, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¾c. Beeswax, 30c.

C. H. W. Weber.

Kansas City, Aug. 20—The demand for comb honey is improving, but receipts light. No new extracted in the market. We quote No. 1 white 24-section cases, $3; No. 2 white and amber 24-section cases, $2.75. Extracted, 5½@6c. Beeswax, 25c.

C. C. Clemons & Co.

Denver, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.

The Colo. Honey-Producers' Assn.

Cincinnati, Aug. 18.—Fancy and No. 1 comb honey find ready sale at 14@15c. Shipments arriving daily. Lower grades are not wanted here at any price. There is a good demand for extracted honey; amber in barrels and cans, 5@6½c; white clover, 6½@8c. (These are our selling prices.) Beeswax, 28@30c.

The Fred W. Muth Co.

Jelly Tumblers at Reduced Prices

YOU CAN DOUBLE YOUR MONEY from your honey crop by using JELLY-TUMBLERS OF CORRECT STYLE, as containers and keeping your market supplied. No other glass so economical. Write for quotations. **OREL L. HERSHISER,**
301 Huntington Avenue, - BUFFALO, N. Y.
34A4t Please mention the Bee Journal.

IF YOU WANT TO KEEP POSTED
UPON THE
GREATEST ∻ POLITICAL ∻ QUESTION
OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

WANTED

To buy for cash, Fancy Comb and Extracted Honey. **R. A. HOLEKAMP,**
31A13t 4263 Virginia Ave., ST. LOUIS, Mo.
Mention Bee Journal when writing.

HONEY AND BEESWAX

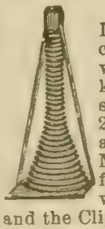
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

WANTED

To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping cases; also extracted honey. We are cash buyers, and remit on receipt of goods.

THE FRED W. MUTH CO.
27Atf 51 Walnut St., CINCINNATI, OHIO.
Mention Bee Journal when writing.

Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One** New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
- CHICAGO, ILL.

One Fare for Round Trip

from Chicago, plus Two Dollars, for fifteen day limit, and one fare for the round trip, plus Four Dollars, for thirty day limit, to Canadian and New England points. Tickets on sale via Nickel Plate Road, from Chicago, September 5th and 19th. Information given upon application to John Y. Calahan, General Agent, 107 Adams Street, Chicago. La Salle Street Station, Chicago—the only depot on the elevated railroad loop.
25—35A3t

"DADANT'S FOUNDATION"

IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness. No Sagging, No Loss.
Twenty-seven Years of Experience. We Guarantee Satisfaction.

WAX WORKED INTO FOUNDATION

BEE-SUPPLIES of all kinds.

Beeswax Wanted at all times...

****

DADANT & SONS, Hamilton, Ill.

SEND FOR OUR CATALOG

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN

265 & 267 Greenwich Street - NEW YORK, N. Y.

30Atf

AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., SEPT. 13, 1906 No. 37

VIEW OF A LIMA-BEAN RANCH IN CALIFORNIA

(This picture was taken on a farm containing 1,900 acres, all planted to beans. Some bee-keepers move their bees to the bean-fields for honey. The buildings shown are where some of the teams are cared for. A few rods beyond the barn rolls the Pacific Ocean.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times	5 per cent	100 lines	5 per cent
13 "	10 "	500 "	10 "
26 "	20 "	1000 "	20 "
52 "	30 "	2000 "	30 "

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.
FARMER'S CALL, Quincy, Ill.

We Manufacture the Finest, Whitest No-Drip, Basswood **Shipping-Case**

on the market to-day. Covers and bottoms are of **One Piece**. Everything is **Polished** on both sides, and a better case cannot be had at any price.

We can furnish them in single or car-load lots to fit any number or style of section. Large quantities of all the standard sizes on hand.

As a special offer, we will sell you 25 cases to hold 24 sections, complete with **Nails, Paper** and **Glass**, at $4.00. Write for prices on larger quantities. Can furnish corrugated paper if desired.

We can furnish you with anything you need in the apiary. Our Catalog is free.

Prompt Shipment and Satisfaction Guaranteed

Minnesota Bee-Keepers' Supply Co.

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Fine Young Prolific
ITALIAN ✣ QUEENS
By Return Mail
Untested, 45c, or $5.00 a dozen.
36Atf **J. L. FAJEN, Alma, Mo.**

FENCE *Strongest Made*

Made of **High Carbon** coiled wire. We have no **agents**. Sell direct to user at **factory prices on 30 days free trial.** We pay **all freight**. Catalog shows 37 styles and heights of farm and poultry fence. **It's free.** Buy direct. Write today

COILED SPRING FENCE CO.
Box 89 WINCHESTER, INDIANA.

DO YOU KNOW
THAT THE SALE OF
DITTMER'S FOUNDATION

Has increased so much that we were forced to double our melting capacity in order to fill orders promptly?

There is a Reason for This—It is because DITTMER'S FOUNDATION is tough, clear, and transparent, and has the natural odor of beeswax.

Agents for Dittmer's Foundation:

W. D. SOPER, - - Jackson, Mich.
BEE & HONEY CO., - - Beeville, Tex
E. H. TAYLOR, Welwyn Station, Herts, Eng.
E. GRAINGER & CO., Toronto, Ont., Canada.

Our warehouse is well stocked with **all kinds of Bee-Keepers' Supplies**. Beeswax always wanted.

GUS DITTMER, Augusta, Wis.

NOT IN THE TRUST

We will stamp your Cans "PURE EXTRACTED HONEY"—FREE

Our prices for 1906 are the lowest to the National Bee-Keepers' Association. Write us.

Now is the time TO BUY

FRICTION TOP CANS
FOR HONEY AND SYRUP

Canners Can Co.
1035 W. 47th St., CHICAGO, ILL.

Piano and Organ Sample Offer

Pianos and Organs good enough for these musicians, are good enough for any one

Prof. E. O. EXCELL
whose music is sung around the globe

"The **Epworth** piano I bought of you for my home is a superior instrument. I like the Epworth organs too. There is a clearness, depth and richness in the tone of your instruments which is particularly pleasing. I can safely recommend the Epworth to my friends."

Prof. CHARLES H. GABRIEL
well-known composer of Sunday School music

"For years I have used the **Epworth** in my studio, and now I have bought another for my home; they are exceptionally sweet-toned instruments. I feel that I can strongly recommend your pianos and organs, because I know them to be good and believe them to be the best obtainable for the price."

IT WILL pay you to read every word of this advertisement and then to send for our free Epworth piano (or organ) book and our special sample offer as explained below.

Mr. J. W. Williams, our President, began business over fifty years ago in a very small way, but now it keeps our two fine factories busy the whole year round to make enough of the sweet voiced Epworth pianos and organs to supply the demand.

You see we do not allow any agents to come between us and our customers. So you can buy a beautiful, sweet toned instrument direct from our factory at a saving of about $100.00 on a piano and from $20.00 to $50.00 on an organ.

The Epworth is so beautiful—so rich and sweet in tone—so easy to play—so reasonable in price, that it needs no agent or salesman.

It is easy for us *to make* extra fine pianos and organs, and it is easy *to sell* them too, when we know who are wanting to buy and to whom we ought to send our catalogs.

There are people all around you wanting pianos and organs but who for safety and economy will not buy from agents or supply houses.

These people would surely buy from us if they could only see a sample of our instruments in the home of some neighbor.

Now you see why we want to get a fine sample piano or organ into your neighborhood and why we are willing to make you a special "Sample Offer" and to pay you for showing the instrument and for sending us the names of buyers.

If you want to know more about this good chance to get an extra fine piano or organ at a bargain price and on easy terms, send us the following coupon or write the same on a postal card.

Now try to be the first to write from your place and be sure to mention which you want, the piano book or the organ book.

[Cut this out and mail as directed today, or write same on postal]

Williams Organ and Piano Co., 57 Washington St., Chicago.

Please send me the free Epworth ____________ Book with factory prices,
Piano or Organ
easy payment plan and full particulars of your **Special Sample Offer** as
advertised in ____________________
Write name of paper on this line
My name ____________________
Postoffice ____________ State ________

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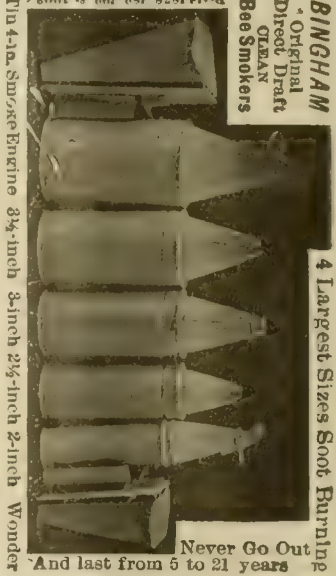

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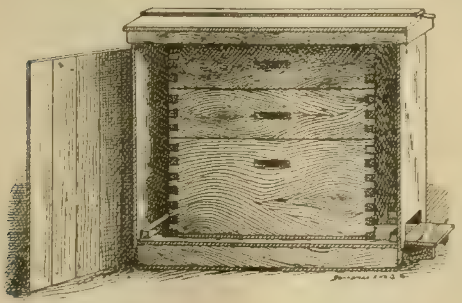

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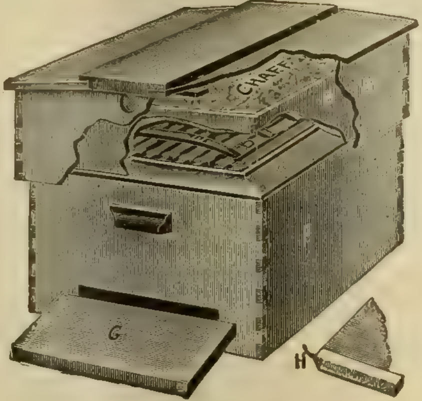

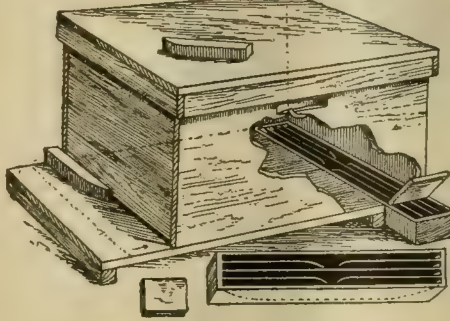

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AMERICAN WEEKLY BEE JOURNAL

LANGSTROTH
CHAS DADANT

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

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GEORGE W. YORK, Editor CHICAGO, ILL., SEPTEMBER 13, 1906 Vol. XLVI—No. 37

Editorial Notes and Comments

Feeding for Winter vs. Winter-Feeding

The wise bee-keeper will give timely attention to the matter of feeding for winter; winter-feeding is a thing not at all on his program. After the snow begins to fly, and at various times from that on till spring, will come inquiries how to feed bees in winter. The right answer to that question is: "Don't feed bees in winter."

In many localities no time should be lost now in seeing that bees are supplied, and well supplied, with winter stores. If they have ceased for the season to gather more than they consume for their daily needs, there is nothing to be gained by further delay, and there may be loss by it. Indeed, in some places there is loss already, for if the surplus storing was finished up in August, the feeding could have been done with advantage then; the advantage being two-fold. In the first place, the bees know better than any one else just how to arrange their brood-nest for winter, and the later in the season the bee-keeper does any meddling with it the worse it is for wintering. In the second place, if the feeding is done early, equal parts of sugar and water can be given, making it more like real nectar than when stronger syrup is given, and giving the bees a better chance to make the necessary chemical changes.

If the feeding is postponed until late, say the last of September or in October, then it is too late for the bees to evaporate the thin food and make the needed changes, but it must be fed of about the consistency of honey—2 pints of water for every 5 pints of sugar; or, if you prefer to go by weight, 2 pounds of water for every 5 pounds of sugar. Fed thus late, the food should be given hot, whereas early it can be given cold.

It will be readily seen that there is quite a difference between having in the middle of August 100 percent as much water as sugar, and the first of October 40 percent as much water as sugar; and, of course, the amount of water must be lessened as the season advances. For the middle of September a good proportion may be 3 parts of water to 4 parts of sugar.

Of course, the weather has something to do with it, the colder it is the less chance to give the food thin. Latitude also comes in; the farther south you go from Chicago, the less need for hurrying up. But always better too early than too late.

Opinions differ as to rapidity of feeding. Some say to feed as rapidly as possible, the only object being to get in enough for winter; and if you feed slowly it will be used up in brood-rearing. Others say that brood-rearing is the very thing you want, so as to have a force of young bees for winter and spring. Perhaps it's safe to say that the later the feeding is done, the more rapid the feeding should be.

Now after all the foregoing is said, the better way is to feed no sugar at all; and the wise bee-keeper will, if possible, have a store of combs filled full of honey and sealed, so that before cold weather approaches he can give them to any colonies not already abundantly supplied, and still have some left for emergencies next spring. But some may not have been sufficiently far-sighted to have these combs, and in some places the season may have been so poor that by no possibility could the bees store enough for their own use; hence the need for advice about feeding.

Be sure to hurry up feeding for winter; but don't for a minute think of such a thing as winter-feeding.

Grading and Packing Honey

The following paragraphs appeared in Farm and Home, an agricultural publication:

> HONESTY IN PACKING AND SELLING.
>
> While farmers have as much business honesty as any class of men, there are many who are not above the tricks of the trade when it comes to packing and selling certain kinds of produce. The mixing of bad eggs with good ones, putting small potatoes and apples in the middle of the barrel, and selling old roosters and hens for young fowls, are practices far too common. They do not pay in the long run. A farmer soon gets a reputation for his products, and whether it be good or bad depends entirely upon himself.
>
> The reason that some men have no trouble in selling their fruit, vegetables, poultry and dairy products at top market prices or above is due largely to the care which they take in grading and packing. Some of their neighbors would get less money for the same goods if they carried the load to town, for they have been known in the past to be indifferent or dishonest in their methods. If you have an old hen, sell her as such. Then the next time you go to town with young fowls you will have no trouble in selling them for what they are. The greatest difficulty in working up a private trade among city and townspeople is due to the deception which many farmers and peddlers have practised on them in the past.

The foregoing contains some excellent advice that is just as appropriate for bee-keepers as for producers of potatoes, apples, or anything else. Dishonest grading and packing of honey does not pay any better than the "mixing of bad eggs with good ones." All the honey contained in the same case should be as good, both in appearance and quality, at the back as at the front or glass-side of the case.

When we were handling honey on a large scale, it was very annoying to open a case and find that it had been "faced." It was often necessary to regrade it before selling to retail grocers. Sometimes there would be 3 grades in the same case, and in almost all such instances there was either a loss to us or else not very much profit, as the lower grades had to be sold at a less price, and the best probably would bring but little more than we had paid for the lot. Of course, we were careful after that to refrain from buying from that same bee-keeper, or insist that future shipments should be uniform in grade.

The trouble is that no two bee-keepers seem able to agree on grading honey. Honey is a good deal like babies. Every mother naturally thinks her own is the "bestest." Nearly every bee-keeper has a different idea of what is "best honey." Also, in some local markets what we would consider a poorer grade would sell just as well as better ones. In the large city market, however, the fancy groceries always want something very nice, as they have a line of customers who do not care very much what the price is so long as they get what is satisfactory to them.

It never pays to be careless in grading anything for the market. Only the best should be shipped if a good price is expected. The lower grades can usually be better disposed of in local markets. For if some of the sections are not very well filled, or not well sealed, the flavor and quality of such honey may be exactly equal to that which is better filled and all sealed.

In the last analysis everything that is sold in the open market must stand on its own merits. There is nothing else by which to judge. If the goods do not make a good appearance they will not sell well. If they do make a good appearance, and the quality is not right, it is likely to result in less future sales. Perhaps honey-sales suffer more than does anything else from lack of good appearance and good quality. If honey is purchased once and it does not satisfy, such purchaser is not likely to indulge again very soon. It is hard enough to develop a demand for anything, and so, after a good demand is secured, it is very annoying to have it injured or lessened by other producers or dealers offering inferior goods.

There should be no "tricks of the trade" when it comes to putting up honey for the market. It never pays to practise any deception in food products. Everybody wants his money's worth when he buys anything to eat. And we think that nearly everybody is willing to pay a fair price if he can be assured that he is going to get a satisfactory article in return.

Drone-Combs in Extracting Super

Praktischer Wegweiser questions the advisability of the plan recommended in some foreign journals to prevent the queen from going up into the extracting super. It is to have all drone-comb above, with the idea that no pollen will be put in drone-comb, and that the queen will not lay where there is no pollen. However it may be with queens that lay in the German language, on this side the big pond there would probably be no surer way to get a queen to go above than to have all drone-comb there and none below.

Miscellaneous News-Items

Mrs. B. J. Livingston, of Fairmont, Minn., who was once a contributor to the columns of the American Bee Journal, is still blind and in ill health much of the time. She has contributed an article lately on "Bees" to an agricultural paper called The Farmer's Wife. Although blind, Mrs. Livingston is able to write with her own hand so that it is quite decipherable. Her many friends will be glad to know that she is still interested in bees, and is doing what she can to advance the pursuit.

Advertising Honey.—This is the best time of the year to advertise honey, if you have any for sale. A great many dealers in honey read the American Bee Journal, and of course those bee-keepers, also, who have not produced enough this year to supply their local demand will be glad to know where they can get some to help them out.

If you have more honey than you can dispose of in your local market, it would seem that there should be no difficulty in selling it to some fellow bee-keeper in some part of the country. It is well to tell in your advertisement the kind of honey, how put up, and also the price desired f. o. b. your railroad station.

Owing to the rather short honey crop this year, we believe the demand is going to be better than it has been for some time among dealers in honey. There certainly is no need of selling honey at a sacrifice price this year. Just let your fellow bee-keepers know if you have a surplus to dispose of, and we are sure they will be glad to help you out.

Already there are a number of advertisements in the American Bee Journal offering to *buy* honey. We believe every one of them is responsible, or we would not publish it. Some years ago we shipped extracted honey to almost every part of the United States. We handled only the very best grades, and it gave satisfaction. Occasionally there was a customer who would use many thousands of pounds, as he had a local demand that required a large amount.

It is a great advantage to many bee-keepers to know just where they can get honey to furnish their customers. For instance, a bee-keeper in Iowa may not have enough to supply his local demand. It may be that another bee-keeper only 10 or 20 miles away has a great deal more honey than he can use at home. So if he offers it through an advertisement the bee-keeper who is short finds that he can get enough honey within perhaps driving distance, to supply his market. If it were not for the advertisement he would not know anything about it. It will be seen that such honey advertising may thus become a very important matter even among bee-keepers themselves. We hope that those who have a surplus to dispose of will consider this, and begin to advertise at once, so that others who have not enough honey for their local demand will be able to get it somewhere else, and thus be able to keep their trade supplied.

Apiarian Photographs—if suitable for engraving—are always welcomed at this office. No doubt pictures of many apiaries have been taken this season. We will be glad to have such submitted for use in the American Bee Journal from time to time. After their arrival at this office, if we can use them, we will report at once, and request some descriptive matter to appear with them. Please let us see what you have in the photograph line that might be appropriate for a bee-paper.

Mr. Louis H. Scholl, of New Braunfels, Tex., who, for some time, has been conducting the "Southern Beedom" department in the American Bee Journal, we learn is very sick, having been confined to his bed for nearly 2 months. He has been suffering intensely from an internal abscess just above the heart. Several operations have been necessary. He is in a hospital in San Antonio at present, his bride of but 3 months being with him. Mr. Scholl's many friends will regret to learn of his severe illness, and wish for him speedy and complete recovery.

Honey in England.—The following interesting paragraphs are taken from the Agricultural Gazette, of New South Wales, Australia:

> The Acting Agent General for New South Wales, in London, reports that the principal sources of supply for imported honey into the British market are Jamaica, California and Chili. The average importations annually amount to about 1000 tons, of which about 530 tons come from Chili, and the rest in small lots from various sources. A few years back Chili contributed a very much greater proportion of the trade; and in 1901, which was marked by the greatest importation of honey for many years, Chili supplied 586 tons of the total of 1535 tons, Jamaica being next with 450 tons. London is the principal distributing center for Great Britain, the bulk of imports being consumed at home, though shipments are also made to all parts of the Continent. The chief characteristics necessary to render honey suitable for the British market are flavor, color, and clearness; flavor being the most important. The best honey should be sweet and clean in flavor, and "pale set clear" in appearance.
>
> Amber honey is the next in grade, and brown honey is regarded as inferior. Honey is used in England both for manufacturing purposes and as a table delicacy. California is the chief source of supply (outside Great Britain itself) for table honey, and it comes packed in cases, which are considered more suitable for this class of trade. Jamaica honey is chiefly used for manufacturing purposes, and for this branch the most suitable packages are kegs and barrels containing 2 to 3 hundredweight each. A certain proportion of Jamaica honey also comes packed in cases for table use. Australian is used, generally speaking, only for certain manufacturing purposes, on account of the peculiarity of flavor.
>
> The present prices of honey (Jan. 1, 1906) are: Finest, 20s. to 25s. ($4.85 to $6.00) per cwt.; ordinary, 14s. to 18s. The higher range of prices would be for the finest table honey,

and the lower range would represent the price of the ordinary commercial article. These prices are considered moderate, and somewhat below the average. Much of the Jamaica honey is sold at 17s. to 18s. per cwt. Australian is regarded by the principal dealers here as being worth 5s. less per cwt. than Jamaica; and under these circumstances there does not appear to be much scope for our honey in Great Britain unless it can be sent over at a cost of not more than 12s. ($2.90) per cwt., including all charges.

Regarding the prejudice against Australian honey, the feeling is apparently a deep-rooted one, and it is quite possible that it is based on the experience of mixed or inferior samples which have reached England. If some of the excellent "box" honey produced in many parts of New South Wales could be sent here, the bad impression might be removed.

Contributed Articles

Best Size of Honey-Section

BY T. K. MASSIE

I have read with a deal of interest all that Mr. L. V. Ricketts says on page 595, in reply to my article on page 370. It now appears, since we begin to understand each other, that there is but little difference between us. We are agreed that both of us want a section that will average full weight—an "honest pound"—and it seems that we both want a *comb* that is about 1⅜ inches in thickness. The difference between us, then, is the *method* to be pursued to obtain such a comb.

I had overlooked the point that he was talking about a bee-way section, and it seems that he overlooked the fact that I was talking about a plain section, the bee-way to be carried out by the separator, somewhat on the plan of the fence separator.

I like the plain section and the *principle* of letting the separators *permanently* carry the bee-way for all sections every year. This plan saves the extra wood necessary to cut the bee-ways in the sections, and avoids the objections to a bee-way section. And if I could get separators that were *well made* I would not willingly give them up; but this season's use of a lot of flimsily-made fence separators has almost decided me to join Mr. Ricketts' procession and call for a bee-way section and plain separators. I am using separators made by two different firms. One has pretended to glue the end and cross-piece on, and the other has pretended to nail them on, and in each case it was only a pretense. In taking out sections the propolis on their edges holds far better than either the glue or nails, for it pulls the separators "all to pieces." Such things are a great annoyance and vexation. Why certain supply manufacturers will persist in putting out such trashy goods is more than I can imagine.

I am testing a wire-cloth separator with bee-ways secured by means of folded strips of galvanized steel, only the edges of the strips of the steel coming in contact with the edges of the sections. This completely overcomes the propolis question, and gives all the ventilation and lateral communication to the bees that a 4-bee-way section will give, and the corners of the sections are never stuck to the separators with propolis.

I hope to hear from Mr. Ricketts again, and see if we can't come together on the bee-way question. Let us decide where the bee-way shall be placed. He wants it in the sections while I want it in the separators. This question settled, it will be an easy matter to decide on the size of the section.

Mr. Ricketts says that if I had proposed a 4¼x5x1¾ bee-way section he might have joined my procession. Now the section I proposed—the 4¼x5x1⅜ with bee-ways in the separators—will give the same results, as he is willing to accept. Where shall the bee-ways be, in the sections or the separators? is clearly the only question between us.

Tophet, W. Va.

◆

T-Super as Dr. Miller Uses It

BY J. C. ARMSTRONG

DR. C. C. MILLER:—Your explanation of your T-supers (page 704) removes the objections I have had to the only one I ever saw, except to those I have been using—the Elvin Armstrong pattern. I wanted some more, and sent to a bee-supply dealer for T-supers, and he sent me some slat-supers instead. I was so disgusted with them I never put them on the hives again. I then sent to some place for a T-super put up, which had the same difficulty you speak of, and was driven about ½ inch from the bottom of the inside of the super. It came out ½ inch, then bent down to the bottom. Then, when coming to put in the sections, they would not come to the bottom by ½ inch on account of the staples. That was my great objection to it. Then I saw that the staples would have to be driven in before the sections were put in, and saw the difficulty of getting them at the right place.

If I understand it, you turn the super upside down on the table and drive the staple in the upper edge of it; then bend it over and pound it down, and this brings it even with the bottom when turned over. That will do, and I thank you for the information. I can understand that. I would be willing to use such supers, but if I were to order a lot of T-supers and got the kind I did, I should be badly chagrined, and would feel like making a bonfire of them.

You say you can almost throw the sections into yours. I think I see you fill crosswise. If you throw in a whole super full, I don't see how you would get the separators in, if you use them, without taking about as much time as to handle each section separately. I fill the other way, and when I get 1 row in I put in a separator; then another. I have learned something by this correspondence.

Marshalltown, Iowa.

I must confess that I, too, have learned something through this correspondence. I have learned that not only may there be objections to the T-super from using it in a wrong manner, but also that it may be objectionable because wrongly made; and perhaps the wrong using may generally come from wrong making. It seems that it is sometimes made with the bee-space at the bottom of the super, and some have also fastened the T-tins to the super. Either of these things would destroy its advantages, and possibly some one has had ingenuity enough to devise other wrong ways of making.

You are right in the idea you have as to the way the supports are to be. You are wrong as to the difficulty of putting in separators. As you have supposed, a row is first put in crosswise, a T-tin shoved under, then another T-tin, and so on. If you put in a row lengthwise, then a separator, then alternately a row and a separator, it would take probably 3 times as long to fill the super. The T-tins would have to be nicely laid, and it would take time carefully to put each section in the rather close space between 2 T-tins. When put in the right way there is no such careful placing needed. The section is simply set against the T-tin at one side, and when the row is completed the T-tin is very quickly shoved under—it can't go wrong, as it can if the T-tins are first placed. Putting in the separators after the sections are in takes a little longer than putting them in alternately with the sections, but only a little longer. When the sections are put in the super, the super is not full; a space is left at one side for follower and wedge, or spring (a spring is better than a wedge). With a separator in the right hand, put the fingers of the left hand on top of 2 sections at the side of the super where the open space is left, and draw them to one side enough to let the separator down at that end of the super, then with the left hand move the other two sections and shove down the separator. Proceed with each separator the same way, and you will find it can be very rapidly done. Next the little ¼x3/32 sticks are crowded in at the top. Then with a screw-driver or other tool the sections are crowded together enough to admit the follower, a spring is pushed in at the middle, and the work is done.

I earnestly hope you will stick to it till you have T-supers correctly made (any one who sends them to you wrongly made should have them returned), and when you get the right hang of using them I feel very sure you'll find they're the best ever. Often a very little thing makes a material difference in using, and I shall be glad to reply as to even the slightest trouble in using these excellent supers. It may help others as well as yourself.

Marengo, Ill. C. C. MILLER.

Clustered Swarms—Selling Comb Honey by Weight

BY GRANT STANLEY

Comment was recently made on "When Swarms Cluster Together," and "Sections of Honey Can't Be Uniform in Weight." Replying to these in the order named, I will give a kink in regard to hiving several swarms of bees when clustered together, that was related some time ago by an old bee-keeper with considerable experience, and is said never to fail. Should it prove what this bee-keeper claims for it, it will far surpass the method employed by Mr. Dayton.

For just as many swarms as have clustered together, furnish a like number of hive-bodies supplied with empty combs or foundation, and stack them up one on top of another, and set them on a bottom-board. Now shake or hive these several united swarms into this immense hive, and it is said that each swarm and queen will occupy a brood-chamber, and they can then be set on separate stands, or broken up as desired.

I had hoped to try this method before giving it to the press, but circumstances have not favored me in two seasons to do it, and rather than keep it any longer I deem it best to give it to the bee-keepers in the hope that some one will try it and see how it will work out. The colonies should be set on separate stands or broken up as soon as they have separated and occupied a brood-chamber, or it will not be a success.

The question of selling comb honey by weight is one on which I have spent considerable thought. I have also read with keen interest the many articles of able writers on this subject, but I believe comb honey can not be sold by weight. Some bee-keepers have advocated a larger section to be sure we would get a pound of honey in it, but with a larger section than now in use the producer would be at a loss. It is all very well to give the consumer what he pays for, but with fairness to ourselves we can't give any more, and as our present size section holds a pound of honey when well filled out, a larger section would over-run a pound more often than the even pound or under it.

The grocers in some parts of the country tried to sell eggs by weight a few years ago, but after a few trials gave it up in disgust. At present the purchaser pays as much for a dozen eggs of the Mediterranean breeds as those of the Asiatics. Eggs and comb honey are two distinct commodities that can not be sold by weight with any degree of fairness to both producer and consumer, or it would likely have been in vogue long ago. But as I have said before, where one cares to take the time, or time becomes heavy on his hands, he can weigh each section when preparing it for market and mark on it the exact weight and the price.

Nisbet, Pa.

Our
Bee-Keeping
Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

How Often to Requeen Colonies

In an article on "Bee-Keeping as a Specialty," by Miss F. E. Wheeler, in Poultry Husbandry, after commending the Government Bulletin on queen-rearing by Dr. E. F. Phillips, Miss Wheeler says:

> There are two or three points in which his judgment differs from some of our most reliable, practical bee-keepers. For instance, he recommends requeening every year. I do not think many apiarists do this so often. In fact, when a queen proves exceptionally good, I think she is retained several years. From the fact that a queen must be about a year and a half old before a thorough test of the quality of her progeny is completed, it would seem that the apiary is positively injured by requeening every year, thus destroying the most valuable, as well as the poorest, breeding stock.
>
> It is certain, however, that the run-down condition of many apiaries, and the light honey crops, are greatly due to negligence in requeening, and that every second, or at the most, every third year, our yards are improved by requeening, and that every bee-keeper who wishes and is working for success in its highest sense, should realize the importance of keeping up the *standard* of his queens, making a careful study of the methods that will produce, in his case, best results.

There is opportunity for varying shades of opinion with regard to the matter of requeening. Something depends upon the quality of the stock. If a colony can be requeened with a queen of better stock, and the requeening can be done without interruption of brood-rearing, then one can hardly requeen too often.

Something depends upon one's plan of management. That excellent bee-keeper, M. A. Gill, instead of rearing his own queens, buys them by the hundred every year. In that case he depends upon the breeder from whom he buys to keep up the standard of his stock, and if his management involves the introduction into each colony of a queen of the current year—and that is the management of some to prevent swarming — then for him the right thing is certainly to requeen every year.

For those with different management, especially for those who are trying constantly to improve their stock by rearing queens or drones from their best stock—and it should be remembered that the selection of drones is just as important as that of queens—strong emphasis should be given to the point made by Miss Wheeler, that there can really be no proper selection if no queen be allowed to live more than a year, the best as well as the poorest being sacrificed when a certain age is attained.

But it must not be left unsaid that a large number of bee-keepers go still farther than Miss Wheeler, when she advises requeening "every second, or at the most, every third year." Not only do they not requeen every second or third year, but they do not requeen at all, leaving the matter entirely to the bees themselves. Their argument is that so long as a queen is doing good work her age should not be a reproach against her; and that when she begins to fail on account of age the bees will be prompt to supersede her.

Some of those who leave the matter of superseding to the bees themselves—but by no means the majority of them—make a practise of replacing a queen whenever she shows herself inefficient or in any way objectionable; and this may occur in the first as well as the second year. If this practise be followed, and if it be considered that in general a queen will be superseded by the bees as soon as 2 or 3 years old, it may be a question whether there be anything better for the majority of bee-keepers.

One argument of no small weight in the case is, that it is a very much easier thing to let the bees have charge of the matter; indeed so much easier that one should feel sure of a considerable gain to warrant the extra labor involved in rearing and introducing so many queens every year, or every 2 years. And that it is a profitable way, at least under many circumstances, is proven by the fact that it is followed by such successful practitioners as Messrs. Dadant, Doolittle, Miller, Hutchinson, and others.

Two Sisters Hive a Swarm

MY DEAR MISS WILSON:—I am not a bee-keeper—only the wife of one—and he is an enthusiast, gives the American Bee Journal precedence over all other reading matter, and always turns to your and Dr. Miller's pages first, and always learns something from them. I, myself, am dreadfully afraid of his dear pets; I get about one or two stings a year, causing much swelling and inflammation, and generally a day's sickness; nothing immune in my case.

But what I commenced to say is, that

I have just hived a swarm, and am proud of it. The swarm came out about 1 o'clock, just as I had finished dressing for a reception at 2 o'clock, and my good man away from home for the day. It was a warm day, my lawn waist was very thin, and my hands and arms bare, but I could not see that beautiful swarm get away, so I got a hat and bee-veil over my head, got out a hive which was all ready, picked up an empty box, and went for them. They fortunately clustered low down.

By this time my neighbor, Mrs. F., also got interested, and with only a veil for protection, very kindly took a hand. We had to crawl through two fences to get to them, when Mrs. F. held the box and I knocked them off the branch into it, getting nearly all in, then started for the hive, Mrs. F. carrying the box. Going through the first fence she caught her foot in the wire, and down she went, bees and all, only the box kept right side up; but the shaking up so irritated the bees that they began scolding at such rough treatment, boiling up the sides of the box, flying in the air, crawling on our hands and arms, and over my thinly-clad shoulders. But what worried me most was that I was afraid Mrs. F. would get a few stings. I had forgotten, for the moment, about myself, so I grasped the box to get the bees to the hive, found I could not get through the fence, and had to go around by the road about 100 feet further; but at last reaching the hive, and dumping them in front of it, I took a piece of grapevine to push them along, and made them understand where I wanted them to go. They were soon happily settled, and the whole job finished as good as their master himself could have done it.

After bathing my heated face and hands, I was ready for my company. Neither of us got a sting, which all goes to show that "some things can be done as well as others."

Mr. P. has labeled that hive "The Ladies' Colony," and says the honey they are storing all goes to the two brave women who saved the swarm. Let us hope they will bring in plenty.

(Mrs.) G. P. Prankard.

Ridgefield Park, N. J., July 5.

Let us hope to hear at the close of the season what "The Ladies' Colony" has done.

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A Mellifluous Sentence

That popular writer, Kate Douglass Wiggin, in a story in Scribner's, shows her knowledge as to the preferences of the bee in the following beautiful sentence:

> "Back of the barn, and encroaching on the edge of the hay-field, was a grove of sweet clover whose white feathery tips fairly bent under the assaults of the bees, while banks of aromatic mint and thyme drank in the sunshine and sent it out again into the summer air warm and deliciously odorous."

Getting Subscriptions at Fairs.—The season of annual fairs will soon be here. Perhaps some of our readers would like to take subscriptions for the American Bee Journal at their local fairs. If so, kindly write us for terms and sample copies (telling how many wanted). We would like to have one or more representatives at each fair

Canadian
Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Winter Flights a Benefit to Cellared Bees

Mr. Pettit:—I am satisfied that the winter flight I gave my bees did them good. They quieted down nicely after the flight and all came through alive and strong. One colony deserted the hive during the first flight and went in with others, and one became queenless early. Out of 61 colonies put in in the fall, there are 59 strong to-day. One swarmed May 15. I am sure winter flights are beneficial when the bees get so uneasy; but the trouble is, we so seldom have weather suitable.

Geo. A. Howard.

Lynden, Ont., May 28.

I am convinced that in winters like the last, where bees become uneasy through continued warm weather, to carry them out on a suitable day and give them a cleansing flight would be a great benefit. They should probably be put in again the same or the next evening, to avoid their starting a lot of brood. This can easily be done because it is very unusual to have more than a day or two of flying weather in a Canadian winter. Such a winter as last may not come again for 20 years; but no opportunity to learn lessons by experience should be let slip.

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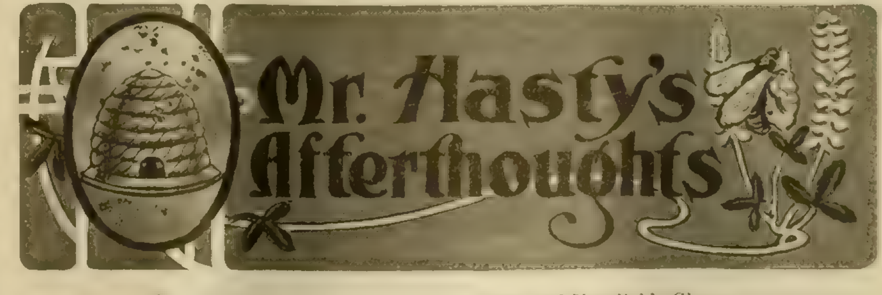
Dysentery in Bees

Praxis Bienenzuct contains a long article on the subject by Dr. Follemus, of Hamburg. He says that the first cause of this distemper is thirst, the second is poor ventilation, and the third neglect on the part of the bee-keeper. The amount of water in honey varies according to the season. In a dry season it will contain only from 16 to 18 percent water; in a wet season the average will run from 21 to 23 percent. In wintering, honey of the former consistency will cause thirst much sooner than the latter. If a winter follows with variable temperature the bees will be more restless than in the even temperature, and this restlessness increases thirst. He tells of his experiments along this line, and recommends sprinkling the bees with luke-warm water as a remedy. Speaking of poor ventilation as the cause of dysentery, he blames too much packing, and the leaving of too small an entrance, thus shutting out the pure air, which he considers as essential for bees as for any other living creature.

Some top or rear ventilation is necessary. About winter flights, the writer says the general belief is that the first cleansing flight will prevent thirst and dysentery, the latter may sometimes be the case, but not always the former, if the ground is frozen. On the first bright day they will take flight, cleanse themselves in the air, and then drop down on the ground for a drink; here a great many will find their death; they will get chilled and not be able to rise again. If the bees were watered in their hive this would not occur. They would not alight, but would fly back directly to their hive again.—*Mail and Empire.*

This would seem to recommend for winter thin honey, uniform temperature, watering bees in the hive, and pure air. These may all be orthodox enough except the thin honey, which, in theory, is right because it gives the bees more water, but in practise conveys a greater evil—its unripe condition adds danger of becoming sour.

Moisture in a cellar is all right where the hive has good, porous top-packing and top ventilation, and the cellar is cool enough to promote a change of air in the hive.



The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Father Langstroth and Truthful Biography.

Great humorists are apt to be sorrowful men at heart, when you get down to it. Their success at fun is the result of a desperate struggle against depression of spirit. In like manner it would seem the jollity of Langstroth when in one of his phases was his form of fighting off the opposite phase—a phase in which no smile could be seen for long, long periods. Glad to see our grand old man portrayed with such apparent honesty as he is on page 600. The reason our biographies are more fictitious than our fictions is sometimes owing to a lack of this honesty—or the biographer thinks he is exercising a Christian charity when it is rather a weak desire to daub on praise thicker than the subject will bear. Still the wholesale failure of biographies seems to need more explanation. Most of the *characteristic* things which define a life and make it differ from millions of others get left out. Why? The biographer wants the reader to take a very exalted view; and he thinks that if the characteristic things were put in, it would be fatal to hero worship. After all, perhaps he fears mostly for himself, lest his book should not sound like *literature.*

RETURNING BUNCHED SWARMS.

With me mixed bees are very apt to ball all their queens. C. W. Dayton expects the same in his locality in California. But (unless we have been treated to a vast deal of silly dope in print) that is not the case in all yards. I would not like to recommend a method that tends to get queens balled *if they are to be used again.* If one is willing to sacrifice the queens, all right. The Dayton method of returning mixed bees to their own hives looks promising. But don't be too sure you will like it until you have tried it in your own yard. The trouble most to be feared is that they will, even when let out slowly, insist on all going to the same hive. My usage with big tangles has been to take them in a bushel basket (or several of them) and then put the right quantity in front of each original hive with a scoop. I think (but do not know) that many of those put wrong go to their right homes next day. Long ago I used to hive fractions of big mixed bunches on a frame of young brood. Have quit that. Pretty sure to swarm 10 or 12 days later; often get away to the woods when you are not watching; and all your fuss results in a remnant nearly worthless. Page 613.

BEE-KEEPING IN JAPAN.

The experiences of T. B. Blow settled in Japan are certainly interesting. Frame hives and foundation and civilized treatment for 2 years and yet no surplus—apparently because Japanese bees are too small and too lazy. Better they pick out somewhere a locality with good floral resources and then import some Italian bees and start them in it. With the oil-producing fields of mustard and rape on one side, and the flower gardens of a big city on the other side, Italian bees ought to make a "go" of it, one would say. At the University apiary at Notre Dame, Ind., they succeed in getting early surplus. With the milder climate of Japan somebody ought to succeed in getting surplus from those great rape and mustard fields, even if they do bloom pretty early in the season. Page 613.

FEEDING BEES A BAKED HEN.

I had supposed feeding bees a baked hen was modern nonsense, and originated in our country. It seems it is European, and presumably ancient. Almost glad. Fear the modern writers' palliation of it has almost as much nonsense as the original hum. Page 616.

MOVING BEES WITH OPEN HIVE-ENTRANCES.

Mr. Holtermann speaks rather hotly against moving bees with entrances open. With not more than 3 or 4 hives in a light wagon, one man to drive and one with a lighted smoker, I think it's a very nice way—much better than keeping them prisoners; but with a whole load of bees and only one man, I think I never encouraged so risky an attempt as that.

He's right that bees do not exactly consider themselves prisoners when there is a portico screened in front, and the ordinary entrance wide open.

BRYAN'S NOT A BAD CASE OF BEE-FEVER.

And so Bryan has $5.00 worth of bees, as per assessor's books. Glad he's a bee-keeper; but evidently the bee-fever has not fully claimed him as its own hitherto, else he would have more bees than that. Page 614.

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Moth-Worms in Section-Honey

1. What do you advise me to do with sections of honey damaged by moth-worms? Will sulphur fumes injure the honey? How can I prevent further damage?

2. Is there any preventive? NEW YORK.

ANSWERS.—1. Sulphur fumes will destroy the wax-worms, and that will prevent further damage. It will not hurt the honey, but too much of it will give a green tinge to the comb.

2. I don't know of any preventive, unless it be to keep Italian bees. I used to fumigate my sections of honey a week or so after taking them off the hives, and then again 2 or 3 weeks later; but since I have mostly Italian blood I do not need to fumigate.

A Swarming Experience

1. I have a little experience to relate. On June 23 a colony of bees attempted to swarm, but the queen did not go with them, and they returned to the hive. I examined and found the queen, also 6 or 8 queen-cells. I examined them 3 days later and found all the cells torn down. They had a case of sections but had not worked in them at all. I thought they would after this freak of swarming, but they did not do a thing. On Aug. 17 they swarmed "good and proper," nearly depleting the old hive of bees which contained plenty of empty comb in which they could have stored pounds of honey. I examined the old hive and found 2 capped queen-cells, which I removed. I hived the swarm on 4 empty combs, then the next day gave them the frames of brood from the old hive. They have been very busy since. The strange thing to me is why they swarmed at this late date. There were no bee-moths or worms in the hive to cause them to leave. There was no flow of honey at this time, as they did not store a single pound of surplus honey this season. Did you ever have, or hear of, any experience of this kind?

OHIO.

ANSWER.—While such an occurrence is not an every-day affair, it is by no means very uncommon. When preparations for swarming are made, and the yield of honey becomes discouraging, sometimes they give up swarming, and sometimes they don't. The case in June was one when they did, and the case in August was one when they didn't. Although no surplus was being stored, the bees were probably getting enough for their daily needs and a little more When bees are getting a little more than they use each day, they are just as likely to swarm as when honey is coming in a flood. If there were only 2 queen-cells present, it looks like a case of intended supersedure. The old queen may have failed, and 3 queen-cells were started. When the young queen emerged from the first of these, the bees may have been in the humor of swarming, and bees with a virgin queen are not so conservative about swarming as those with a laying queen. Bees are rather freaky things, anyway.

Eyes of the Bee

How many eyes has a honey-bee?
WEST VIRGINIA.

ANSWER.—I don't know; they don't all have the same number. For the sake of making the count easier, we may say the worker has 3 simple and 2 compound eyes, each of the compound eyes being made up of a number of facets; but really each facet is a separate eye. Cowan says: "There is great variation in the number of facets in the compound eyes of bees. In the worker the lowest is given as 3500, whereas we have ourselves found as many as 5000." Drones have more than either queen or worker.

Saving Bees Intended for Killing—Cleaning Section-Honey

1. What would be the cheapest way to winter bees intended to be killed for their honey, but I want to save them. My employer buys them in boxes, etc., kills them and sells the honey, takes the money and buys more, and does pretty well at it. He has 200 colonies here at home. Can we profitably save those bees?

2. How many cases of 24 sections does your best hand clean in a day? What should be an average day's work for an average hand? One person claimed he had cleaned and cased 40 cases in a day. COLORADO.

ANSWERS.—1. In Germany, I judge from advertisements, quite a business is made in the fall of selling bees from which their combs and honey have been taken ("naked colonies," they call them), and these bees are then fed up for winter. If it can be done there, it seems it might be done here. It will make quite a difference whether you have combs for the bees or whether they have to build their own combs. I know of but two things you can use for feeding—honey and sugar. Either will do; it's a question of relative cost. A syrup of 5 pounds of sugar and 2 of water will take the place of about 7 pounds of honey, so the question as to which to use will be settled by the answer to the question: Which costs less, 5 pounds of sugar or 7 pounds of honey? If there is any sort of danger of foul brood in the honey, then it would be better to take the sugar, even at greater cost.

I don't know whether you can *profitably* save such bees. You must figure on it. Figure how much it will cost for the bees and the feed, divide that among the number of colonies likely to remain after the bees have been wintered and springed, and then see whether that's less or more than the price for which you can buy colonies in the spring.

2. Three years ago my assistant, Miss Wilson, scraped 2016 sections in a day, doing all the work of taking out of supers, etc. I don't know whether she ever did more in a day. I don't know what an average day's work for an average hand would be—perhaps 1000. I am talking now about sections cleaned in the best style. Of course, more could be done if they were not so well cleaned. More could be done, too, where glue is less troublesome. I have little doubt there are those in Colorado who would do more than 40 cases of 24 sections each, or 960 sections in a day; for there are some very bright people in Colorado, and some nicely cleaned sections come from there.

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Swarming—Cleaning Out Bait-Sections

J. C. Armstrong wants my diagnosis of that case of swarming, page 739, the queen being found dead when the swarm issued and returned, and the swarm issuing with another queen the next day. It may have been a case of supersedure, as he suggests; or it may have been a case of regular swarming in which the bees attempted to swarm on the sealing of the first cell, but failed on account of the queen being clipped. Then when the queen continued to thwart their desires, they worried her to death, or possibly allowed the first emerging virgin to dispose of her.

He doesn't know how I keep from candying the unfinished sections I keep over for baits. Bless your heart, Mr. Armstrong, I don't keep them from candying; there's nothing in them to candy. Just as soon as convenient after they're taken off, I get the bees to clean them out. C. C. M.

◆

Oilcloth Under Hive-Cover—No Sign of Robbing—Honey-Dew

1. I have read so much about oilcloth under the cover, but it seems to me it will sag so there will be no bee-space above the frames. How is it used? I use 8-frame dovetailed hives with Hoffman self-spacing frames, and Excelsior cover.

2 Is it always a sure sign of robbing when the bees that come out crawl up the side of the hive before flying?

3. How can I tell honey-dew in the combs?

Iowa.

Answers.—1. An oil-cloth under the cover will sag, and generally nothing is done to prevent its sagging, although when desired a strip of wood may be used to keep it above the top-bars at the middle. Oilcloth covers are, I think, not nearly so much used as formerly. I have not used them for many years, preferring a flat cover directly over the top-bars, which leaves a $\frac{1}{4}$-inch space between top-bars and cover.

2. Not at all. I'm not sure that a robber-bee is any more likely to do that than an honest bee. Where an entrance is considerably choked with grass, I've seen all the bees of the colony crawl up the front of the hive before taking flight.

3. I don't know; you must learn to tell it just as you must learn to tell honey from different plants.

Reports and Experiences

Pretty Good Season

I keep a few bees for pleasure, and am having plenty of good honey. I had 7 colonies, spring count. I got 1 new swarm, and will get 300 pounds of fine honey to extract. The season is pretty good. It was almost too cool during the white clover season.

Kansas City, Mo., July 26. Geo. Heist.

Honey-Flow Just Opening

Our honey-flow is just opening, which is a great relief to most of us bee-keepers, as we now can stop feeding. My colonies came to the flow in fine shape, so I look for a nice surplus, if nothing sets in to hinder the bees from gathering

We have had two fine rains since my last letter, and from all appearances will have some more before long. Julius Happel.

Evansville, Ind., July 26.

Not More than Half a Crop

I have 20 colonies of Italian bees and 1 colony of hybrids. They are working on heartsease and Spanish-needle. The honey-crop so far is not more than half of an average one. Dr. J. T. Blank.

Elk City, Kans., Aug. 30.

Good Honey Crop in Missouri

My 30 colonies of bees have done extra-well this season. Some have already over 100 pounds of white clover honey. They are now commencing on early fall flowers. I think Missouri will have a tremendous crop. The local market here is flooded with honey selling at $12\frac{1}{2}$ cents per pound. I will report at the end of the season. A. E. Patton.

Bower Mill, Mo., July 30.

Crop Less Than in 10 Years

My honey crop is less this year than it has been in 10 years before. I will have about $\frac{1}{4}$ of a crop. It has been too wet. It has rained here nearly every day since June 1. Bee-keeping looks very gloomy in this locality. The lumberman's ax has felled nearly all tulip and basswood, which were our main sources of honey. G. W. Wilcox.

Cades Cove, Tenn., July 23.

Swarms That Got Away

A swarm of bees went to the woods yesterday, after staying 2 whole days and parts of 2 others. Swarms have been comparatively few this year—but the *percent* of them that got away has been (I think) the largest I ever knew. E. E. Hasty.

Toledo, Ohio, July 31.

A Little Experience

I bought 3 colonies last fall, and in the spring one was queenless. I set them on a platform about 12 feet long, one on each end, and one in the center, facing southeast. Then I overhauled the queenless colony, when the bees formed in a line on the platform and marched to the western colony, which had only a few bees, but a nice queen, and took possession. This line was from 5 to 10 inches wide, 4 feet long, and so close together that you could not see the boards under them. I now have 4 colonies of bees—3 good ones and 1 with 2 supers and a hive on it, which is solid full of bees. This I plan to divide and give a new queen. I have had an untested queen that has filled 8 frames with brood in about 10 days, and have not had a single swarm. Isn't this doing well for green hands?

W. H. Bowden.

Golden Ridge, Maine, July 25.

Fine Honey-Flow in Mexico

We are having a fine honey-flow and it has been good for the last month. Bees are swarming in fine shape. They did not do much swarming in the spring on account of drouth.

Aldama, Mex., Aug. 28 Wm. Winkler.

Poor Honey Crop in Colorado

The honey-flow is just coming to a close here. I have been in Colorado since the first part of June, and find the bees and honey-flow much different from the white clover region of Iowa. The flow has been much slower than at home—mostly from alfalfa; and my employer is well satisfied with his crop, although it is usually reported poor. The bees here are not nearly so cross as at home, nor so bad about robbing.

Rifle, Colo., Aug. 27. John Stotts.

Bee-Paralysis and Good Honey-Flow

On page 721, Mr. H. A. Smith says: "There is one thing which makes me doubtful about the trouble being paralysis. All the literature I can find on the subject says that it will disappear with the good honey-flow, but in my case the thing increased with the honey-flow."

Will Mr. Smith cite volume and page where it is said that paralysis disappears with a good honey-flow? Is he not possibly confusing it with foul brood? E. V. Pagan.

Poor Year for Honey

This has been a poor year for honey in this locality. My bees were short on stores last spring, owing to the open winter, and some of them have been doing nothing but getting in shape for another winter, or for a possible fall flow which we may get.

The early season was too dry for white clover, which is our main stand-by here. My normal colonies will not average more than 35 pounds of comb honey, so far.

Essex, Iowa, July 24. Lyman North.

More Bee-Talk, More Honey Sold

I see Mr. Davenport is out again looking forward. If the United States could produce 10 times as much honey as it does, it would sell 10 times better, and it would then be known, and be a staple article.

I am telling everybody how to handle bees, that will listen to it. Last fall I spoke in Portland on bee-keeping. This spring I was again called to give a lecture on bees—how to handle them to produce the most honey—and the more I talk, the better market I get for what I have to sell. Look what a lot of syrup there is sold. There is plenty of room for 10 times the honey now produced. A few years ago the little honey that was produced here was sold at 6 cents a pound. Now I am getting $8\frac{3}{4}$ cents a pound, and sometimes more, and sit right at home waiting till they call for it, and I sell a ton quicker now than 100 pounds at 6 cents years ago. Some say they get twice as much honey after hearing my way of handling bees. The more I talk bees and honey, the more I can sell.

I have no use for any non-swarming device. Nine swarms in 3 years is the record with me for 30 colonies—not more than to keep us jolly, and hardly that. O. K. Rice.

Grays River, Wash., July 30.

CONVENTION NOTICES.

The Southern Bee-Keepers' Association will meet in Atlanta, Ga., Oct. 11 and 12, 1906, during the State Fair, on the Fair Grounds. All interested are invited to attend.

JUDSON HEARD, Sec. and Treas.
J. J. WILDER, Pres.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

The Western Illinois Bee-Keepers' Association will meet at the Court House (County Court room) at Galesburg, Ill., Thursday, Sept. 20, 1906. We have had such a very poor honey year that many are discouraged, but remember we have all the more need for a good, lively convention. The dry year of 1901 was followed by two exceptionally good years for bee-keepers. None of us was ready for them. Let's get all the information we can, and get ready for the good years that are coming. Messrs. C.P. Dadant, George W. York and J. Q. Smith have promised to be with us, and you will all be made welcome if you come. Don't miss this convention. Come and bring your wives with you. Meeting begins at 9 a.m. and lasts all day.

J. E. JOHNSON, Pres.
E. D. WOODS, Sec.

Missouri.—The annual meeting of the Missouri State Bee-Keepers' Association will be held at the Circuit Court Room at Marshall, Mo., Oct. 2 and 3, 1906. All bee-keepers are invited to attend and to join the Association. This is going to be an important meeting, as steps in preparing for the canvass of the State in the interest of the foulbrood bill to be brought before our Legislature at its session next January are to be considered. Elaborate preparations are being made by the Saline County Bee-Keepers' Club for the reception of bee-keepers, and badges are being prepared, and will be sent to all those applying for them to the undersigned Secretary, or to Mr. M. E. Tribble, at Marshall, Mo., Secretary of the Saline County Bee-Keepers' Club, to facilitate the reception committee in taking care of the bee-keepers on arrival of the trains. Hotel accommodations can be obtained at reasonable rates, or board and lodging can be secured at 50 or 75 cents per day at private boarding houses, for those who will write to Mr. Tribble, asking him to arrange for them. There are over 41,000 bee-keepers in Missouri. Let there be 1000 of them at Marshall, Oct. 2 and 3.

ROBERT A. HOLEKAMP, *Sec.*
4263 Virginia St., St. Louis, Mo.

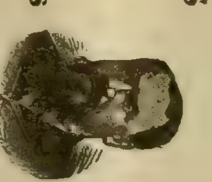
Seeds of Honey-Plants
Seven heads Turnips, Motherwort, Catnip at 5c per package, postpaid; 24-lb. Shipping Cases complete with glass, 14c each.
H. S. DUBY, the Bee-Man, St. Anne, Ill.
26A13t Please mention the Bee Journal.

Queens Italian Queens
Golden and Leather-Colored
One Untested Queen, 50c; 6 for $2.75. One Tested Queen, 75c; 6 for $4.00. Safe arrival guaranteed.
JOHN LEININGER
R.F.D. No. 4, FT. JENNINGS, OHIO.
29Dtf Please mention the Bee Journal.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

"If Goods are wanted Quick, send to Pouder"
BEE-SUPPLIES
Root's Goods at Root's Prices
Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. Catalog Free.
BEESWAX WANTED
I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.
EARLY ORDER DISCOUNT During September I will offer a discount of 7 percent on Supplies for next season's use. In October the discount will be 6 percent. Cash must accompany order.
WALTER S. POUDER
513-515 Massachusetts Ave., INDIANAPOLIS, IND.

DR. MILLER


DOOLITTLE

SPECIAL OFFERS for Sept. and Oct. ONLY
Cloth-bound Dollar Books for 60 cents each
ALSO
A 75c Book and a 75c Queen for 25c each when taken with the American Bee Journal as offered below:
(To either New or Renewal Subscribers.)
No. 1 The Bee Journal a year with Dr. Miller's cloth-bound "40 Years Among the Bees" (book alone $1)—both for $1.60.
No. 2 The Bee Journal a year with Doolittle's cloth bound "Scientific Queen-Rearing" (book alone, $1)—$1.60.
No. 3 The Bee Journal a year with Doolittle's leatherette-bound "Scientific Queen-Rearing"—(book alone, 75c—$1.25
No. 4 The Bee Journal a year with a Standard-Bred Italian Honey-Queen (Queen alone, 75c)—$1.25.
Remember, that each is a separate offer, and **must be taken before Nov. 1, 1906,** if you want the advantage of these special prices.
If more of the same kind of Queens are wanted, order at these prices during September and October: 3 for $2.00; 6 for $3.75; 12 for $7.00. **Now is the time to re-queen.** Or, we will send 1 Queen **Free as a Premium** to any subscriber (whose own subscription is paid up at least to the end of 1906), for sending us $1.00 and the name and address of a **NEW** subscriber for 1 year.
A free sample of the Weekly American Bee Journal on request; or a "**trial trip**" of 3 months (13 copies), sent for only 20 cents. Regular price is $1 a year. Address,
GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.
All our Special Offers always apply only to the U. S. and its possessions, Canada, Mexico and Cuba.

Bee-Keepers
If you want Sections that you can put a full sheet of foundation in 4 sections at once; or any other Bee-Supplies, send for Catalog to
20Atf A. COPPIN, Wenona, Ill.

WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.
M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH
Mention Bee Journal when writing.

Fire Sale of Bee and Poultry Supplies

Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

New Lewis Goods at Factory Prices, by Return Freight.

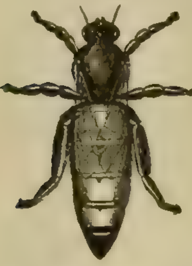
Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Golden Italian or Red Clover Queens **by return mail.** Untested, 75c; Select Untested Queens, $1; Tested, $1.25; Select Tested, $2.25. Full Colonies in up-to-date hives, and Nuclei, for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. **191 AND 193 SUPERIOR ST. CHICAGO, ILL.**
(Three blocks north and one block east of our old location.)



Golden Italian Queens

or bright **3-banded Queens**
mated to bright 3-banded Drones.

Bred to the highest standard of honey-gathering and hardiness. No disease. Quality, promptness, safe arrival and absolute satisfaction guaranteed.

	1 Queen	2 Queens	4 Queens	6 Queens
Untested	$ .60	$1.20	$2.40	$3.60
Tested (or Warranted Tested)	1.00	1.90	3.75	5.50

Select Tested (for breeding purposes) $2.00 each—no discount.

It is not mine to command your favors—I'll do more, I'll merit them. May I ask a trial order?

CHAS. M. DARROW—R.F.D. No. 1—Box 19—Milo, Mo.

Mention Bee Journal when writing. 31Atf

Choice Queens

Caucasians—Untested, 75c; Tested, $1.00. Italians and Carniolans—Untested, 60c; Tested, 75c. A postal card will bring my circular and full price-list for 1906.

CHAS. KOEPPEN,
26A13t FREDERICKSBURG, VA.

Queens By Return Mail

Queens from our fine strain of 3-band Italians will not disappoint you; bees are gentle and the best of honey-gatherers. Queens are large and prolific, and every one guaranteed. Untested, 50c, $6 per doz. Tested, $1 each.

J. W. K. SHAW & CO.
19Atf LOREAUVILLE, Iberia Co., LA.

Mention Bee Journal when writing.

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST ÷ POLITICAL ÷ QUESTION

OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

"It is continuous advertising that impresses the public with the stability of a firm."

The Frisco is the Line

To take to the Bee-Keepers' Convention. First-class equipment all the way. Through service from Chicago to San Antonio with exception of change at St. Louis. You run through the beautiful Ozarks over this scenic line to the Southwest. The convention is held at San Antonio in November; the weather is delightful; it is just the time to see this great section at its best.

FRISCO

For additional information write

W. H. RICHARDSON, General Passenger Agent,
CHICAGO, ILL.

QUEENS

BY RETURN MAIL

Golden or Leather-Colored Italian

A few unsolicited testimonials showing what Quirin's queens are doing:

Our folks say that your queens are extra-fine.
The A. I. Root Co., Medina, Ohio.

We have good reports from your stock from time to time. George W. York & Co., Chicago, Ill.

On every hand I hear good words of Quirin's queens. B. S. K. Bennett, Los Angeles, Calif.

Your queens did finely. It was one I purchased last year that gave me over 600 pounds of honey.
J. L. Gandy, Humboldt, Nebr.

The breeder is surely a very fine one; her daughters do grandly.
Campbell & West, Hartstown, Pa.

I had a queen of you last year which produced bees that beat anything ever seen in this part of the country. E. L. Messenger, New Haven, Conn.

The nuclei you sent J. A. Adams did just spendidly. Each colony stored at least 75 pounds of honey.
F. P. Merritt, 13 Breckenridge St., Lexington, Ky.

A few years ago I bought a queen from you which proved to be the best I had for years.
H. C. Shirley,
Cashier of Liberty Bank, Liberty, S. C.

I have had the pleasure of seeing the results of your queens at Mr. George W. Stanley's apiary, at Scuffletown, Ky., and that is why I am ordering this half dozen. C. W. Brenner, Newburg, Ind.

I bought a queen from a neighbor last year who said he got her from you. She made for me 193 sections of honey after July 4—the best my other queens did was 64 sections.
C. E. Woodington, St. Anne, Ill.

With great respect I write to you in regard to your dealing and queens. If you want any references you can refer to me, as I can't recommend you too highly. Your queens are the best I ever saw. I have one hive of bees among my 45 colonies containing a queen from you that $50 will not buy.
Morris Coon, Route 2, Locke, N. Y.

Prices balance of season	1	6	12
Select queens	75	$4 00	$7 00
Tested queens	1 00	5 00	9 00
Select tested queens	1 50	8 00	15 00
Breeders	3 00	15 00	
Straight 5 band breeders	5 00		

Safe delivery and satisfaction guaranteed of all queens. Any queen not satisfactory may be returned any time inside of sixty days and another will be sent gratis.

Address all orders to

Quirin-the-Queen-Breeder
BELLEVUE, OHIO
33Dtf This ad. appears every two weeks.

DOOLITTLE & CLARK

WILL SEND QUEENS

BY RETURN MAIL

the remainder of the season at the following prices:

Untested	$ 1.00	$2.50	$ 9.00
Select Tested	1.50	4.00	14.00
Tested (1905 rearing)	2.50		
Select Breeding	5.00		
Extra Select Breeding	10 00		

NOW IS THE TIME TO REQUEEN.

Borodino, Onon. Co., New York
17Dtf Pleasemention the Bee Journal.

Moore's Long-Tongues and Golden Queens

Select Untested, 75c; 6 for $4; 12 for $7.50. Tested, $1.25; 6 for $6; 12 for $11. Best Breeders, $2.50. Safe arrival guaranteed.

W. H. RAILS, Orange, Calif.
29D6t Please mention the Bee Journal.

Please mention Bee Journal when writing advertisers.

Our Early-Order Discounts on

BEE-SUPPLIES

are now in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices.

We make the best-finished and substantial

SHIPPING-CASES

in free Shipping-Crates.

Our HONEY-EXTRACTORS

are not excelled for durability, fine workmanship, and practical utility.

Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
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Catalogs issued in English or German.

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Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of **SUPPLIES.** Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

SOLID GOLDEN QUEENS

YELLOW TO THE TIP

Select Untested Queens, $1. Tested Queens, guaranteed to produce 5-banded bees, $2.50 each.

H. M. PARKER, JR.
30Atf JAMES ISLAND, S. C.

Mention Bee Journal when writing.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
17A26t 138 N. Pleasant St., NORWALK, OHIO

Mention Bee Journal when writing.

65c for 12 Names For names and P. O. of 12 farmers and 15c—stamps taken—we will send for 2 yrs. the Farmer's Call—reg. sub. price 40c a year. F. C. is a wkly., 25 years old, 1,300 pages a year. Sample free.

FARMER'S CALL, Quincy, Ill.

Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$ 8 00	$ .95	$ 5.00	8.50
Select Untested	1.00	5 00	9.00	.75	4.25	8.00	1.10	5.50	9 50	1.20	6.00	10 00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1 60	8 50	15 50	1.70	9.00	16 00
Select Tested	2.00	10 00	18.00	1.50	8.00	15.00	2 10	10.50	18 50	2 20	11 00	19.00

Straight 5-band Golden Breeders	$10.00
Select Golden Breeders	3.00
" 3-band "	3.00
" Carniolan "	3.10
" Caucasian "	3.25

1-frame Nucleus (no queen)	$1.50
2-frame " "	2 00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive	6.00

Bees by the pound in light shipping-boxes, $1.00 per pound.

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

Italian and Caucasian

BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen	$ .65
" Tested Queen	.90
" Select Tested Queen	1.10
" Breeding Queen	1.65
1-comb nucleus (no queen)	.80
2 " " "	1.40
3 " " "	2.00
1 Un. Caucasian Queen,	1.25
1 Tested " "	1.75

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

J. L. STRONG
16Atf 204 E. Logan St., Clarinda, Iowa.

Italian and Caucasian Queens

A special discount is offered on all Queens and Bees ordered to be delivered before the close of the season of 1906. Pure stock, pure mating, and **excellence in grade** guaranteed. Address,

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R. F. D.

Queens Now Ready to Mail

None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

GRANT ANDERSON,
20Atf SABINAL, TEXAS

COILED SPRING FENCE

Closely Woven. Can not Sag. **Every wire** and **every twist** is **a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

30 DAYS FREE TRIAL

and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made--how it is galvanized--why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 8 MUNCIE, INDIANA.

Mention Bee Journal when writing.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

—FOR HIS—

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Big Profits in Capons

CAPON
TOOLS

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor	25c
Poultry Marker	25c
French Killing Knife	50c
Capon Book Free.	

G. P. Pilling & Son, Philadelphia, Pa.

Special Summer Tourist Rates

via Nickel Plate Road, to Canadian and New England points. Fifteen day limit one fare plus Two Dollars from Chicago; thirty day limit, one fare plus Four Dollars from Chicago. On sale September 5th and 19th. For reservation of sleeping-car berths, etc., write or call at City Ticket Office, 107 Adams Street, Chicago. 26—35A3t

Gloves for Handling BEES

Something New.
Something You Want.

Our specially prepared Gloves soften the hands and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff. We furnish them without armlets or sleeves for using in sweeping, gardening or general housework, driving or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white.

All the points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail, or with other goods, at the following low prices:

Bee Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies ..... .35
Men's Gauntlets, fleece-lined ..... .35
Ladies' ..... .35
Ladies', unlined, for wearing at night or during doing light housework ..... .40

Early Order Discounts on Bee-Supplies (excepting above and a few other articles) as follows:—

7 percent for cash with order before Oct. 1st
6 " " " " Nov. 1st
5 " " " " Dec. 1st
4 " " " " Jan. 1st
3 " " " " Feb. 1st

If you haven't our 1905 catalog, send for one and a free copy of the American Bee-Keeper (50c a year. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.

Honey and Beeswax

CHICAGO, Sept. 8.—The receipts of comb honey are quite large and there is also a good demand for it, so that prices are well maintained at 15@16c for No. 1 to fancy; anything short of these grades is not selling freely and ranges from 1c to 3c per pound less; buckwheat, 12½c; dark grades, 8½10c. Extracted, white, 6½@7½c; amber, 6@7c; dark, 5½@6c. Beeswax, 30c. R. A. BURNETT & CO.

TOLEDO, Aug. 20.—The market on honey has not changed much since our last quotation. Bee-keepers seem to be holding their goods expecting large prices. Fancy white comb brings in a retail way 16@17c; No. 1, 15@16c, with no demand for dark. Extracted white clover, in barrels and cans, brings 6½@7c; but very little has been offered as yet. Beeswax, 26@28c.
GRIGGS BROS.

INDIANAPOLIS, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, Aug. 9.—Advices from different points are rather conflicting in regard to the honey crop this season, and, consequently, there is no market price established. Some new arrivals of comb honey sell at 13@15c, according to quality, and extracted at 6@7c. Beeswax firm, 28c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Aug. 18.—There is a good demand for new crop comb honey, but arrivals are very small as yet, and will continue so for a week or two to come. We quote fancy white at 15c; No. 1 white at 14c; No. 2 white at 12c; it is too early as yet for dark or buckwheat. Extracted is in good demand at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Southern, common average grade, 50@55c per gallon; better grades at 60@65c. Beeswax firm at 30c.
HILDRETH & SEGELKEN

CINCINNATI, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¼c. Beeswax, 30c.
C. H. W. WEBER.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

WANTED—HONEY

White Clover Extracted and Comb. Mail sample and state lowest price expected, delivered in Cincinnati. We pay cash on delivery.

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**
For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI OHIO
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

KANSAS CITY, Sept. 5.—Arrivals of comb and extracted honey are both light at present; we are quoting No. 1 white comb at $3 per case, and No. 2 at $2.75 per case, of 24 sections. Extracted is moving at 5½@6c. The demand exceeds the supply just now, but we look for heavier arrivals next week. Beeswax, 25c.
C. C. CLEMONS & CO.

DENVER, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Aug. 18.—Fancy and No. 1 comb honey find ready sale at 14@15c. Shipments arriving daily. Lower grades are not wanted here at any price. There is a good demand for extracted honey; amber in barrels and cans, 5@6½c; white clover, 6½@8c. (These are our selling prices.) Beeswax, 28@30c.
THE FRED W. MUTH CO.

WANTED

To buy for cash, Fancy Comb and Extracted Honey. **R. A. HOLEKAMP,**
31A13t 4263 Virginia Ave., ST. LOUIS, MO.
Mention Bee Journal when writing.

HONEY AND BEESWAX

When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.
Mention Bee Journal when writing.

Jelly Tumblers at Reduced Prices

YOU CAN DOUBLE YOUR MONEY from your honey crop by using JELLY-TUMBLERS OF CORRECT STYLE, as containers and keeping your market supplied. No other glass so economical. Write for quotations. **OREL L. HERSHISER,**
301 Huntington Avenue, - BUFFALO, N. Y.
34A4t **Please mention the Bee Journal.**

WANTED

To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping-cases; also extracted honey. We are cash buyers, and remit on receipt of goods.

THE FRED W. MUTH CO.
27Atf 51 Walnut St., CINCINNATI, OHIO.
Mention Bee Journal when writing.

One Fare for Round Trip

from Chicago, plus Two Dollars, for fifteen day limit, and one fare for the round trip, plus Four Dollars, for thirty day limit, to Canadian and New England points. Tickets on sale via Nickel Plate Road, from Chicago, September 5th and 19th. Information given upon application to John Y. Calahan, General Agent, 107 Adams Street, Chicago. La Salle Street Station, Chicago—the only depot on the elevated railroad loop.
25—35A3t

HONEY! HONEY! HONEY!

Have you any to sell? If so, see us before selling. We pay highest Market Price for both Comb and Extracted Honey—also Beeswax. . . . .

GRIGGS BROTHERS, 521 Monroe Street, Toledo, Ohio
25A6t

“DADANT'S FOUNDATION”
IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness. No Sagging, No Loss.
Twenty-seven Years of Experience. We Guarantee Satisfaction.
WAX WORKED INTO FOUNDATION

BEE-SUPPLIES of all kinds.
Beeswax Wanted at all times...

DADANT & SONS, Hamilton, Ill.
SEND FOR OUR CATALOG

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN
265 & 267 Greenwich Street - NEW YORK, N. Y.
30Atf

AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., SEPT. 20, 1906 No. 38

Apiary of J. M. Reed, of Big Valley, Texas.
(See page 798)

Apiary of G. A. Bleech, of Jerome, Mich.
(See page 798.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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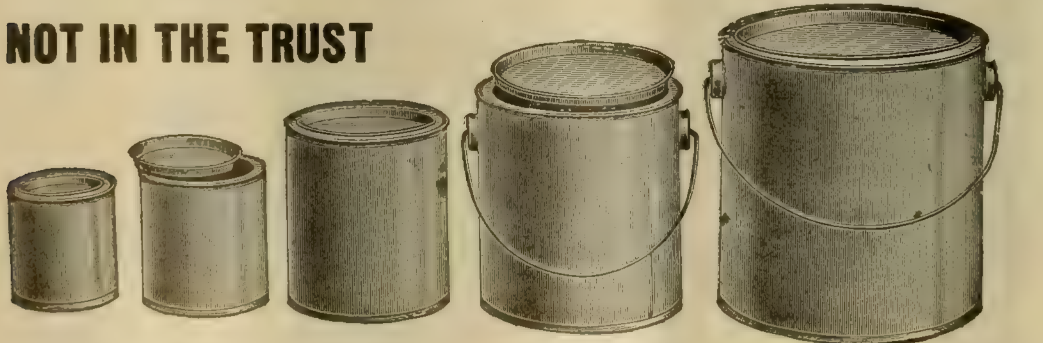

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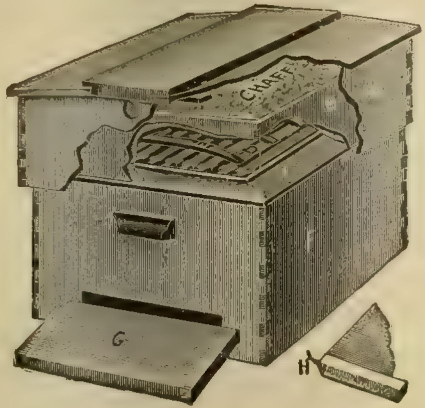

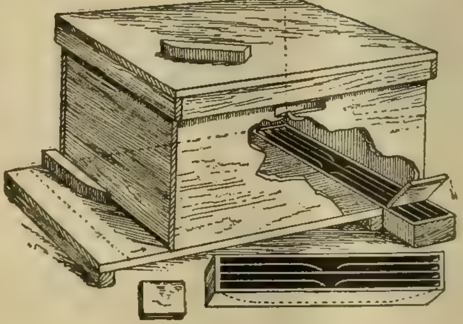

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WEEKLY
BEE JOURNAL
L.L. LANGSTROTH
CHAS. DADANT

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

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GEORGE W. YORK, Editor | CHICAGO, ILL., SEPTEMBER 20, 1906 | Vol. XLVI—No. 38

Editorial Notes and Comments

Supplant Poor Queens in the Fall

This Journal has been somewhat insistent upon improvement of stock by introducing better stock in the fall. Not only should fresh blood be introduced, but queens not coming up to the mark should be supplanted by young queens reared from the best stock in the apiary. C. W. Dayton wisely says in the American Bee-Keeper:

> "In the previous August or September it is easy to add a dollar or two per colony to a crop of honey, by this correction of a few colonies. It may constitute the only clear profit. When a business falls only a little behind expenses it is conducive to 'the blues.' It is not easy to build hopes on failures."

◆

National Co-operation of Bee-Keepers

A correspondent calls attention to the following sentence on page 733: "Bee-keepers are usually too much scattered over a State, or throughout the United States, to make much of a success of co-operation on such large scales," and then wants to know if this is not disproved by the National Bee-Keepers' Association. Reference to the page mentioned will show that the matter under discussion was co-operation in buying bee-supplies and selling honey; and no doubt it would have been better if the sentence quoted had been thus limited; for we have no desire to deny the grand results in some other matters that have been achieved by means of the co-operation of bee-keepers scattered over the entire country. Many a bee-keeper has been saved from the petty persecution of village or city governments, egged on by evil-disposed neighbors, because of the precedents established through legal decisions secured by the National Association; and General Manager France is still sending out literature of helpful character in this direction. That is only one item; it is not necessary to refer to others. If selling of honey or buying supplies ever is helped through National co-operation, we shall be only too glad to say we were wrong on that score.

◆

Safe Introduction of Queens

It has been suggested by one who has evidently had sufficient experience to teach him that the introduction of queens is not always attended with success, that it might be a good thing to publish an editorial, "giving several safe and certain methods of introducing queens." Some of the veterans will smile upon reading such a modest (?) request, and some of them may be inclined to say, "There is no one way, let alone several, without more or less failures." And one may well ask, "What need of more than one way, anyhow?"

A knowledge of general principles is likely to help against failure, so it may be well to say something in that line.

There must be absolute assurance that a colony is queenless, if there would be certainty of acceptance of a strange queen. If there be anything in the hive which the bees regard in the light of a queen, whether it be a good queen, a poor queen, a drone-laying queen, or even laying workers, the stranger is not likely to be received with favor. Neither is one absolutely certain in this regard when one has killed the old laying queen; for the presence of two queens in a hive is not now regarded as such a very unusual thing. There may be two laying queens, mother and daughter, and, what is more difficult of detection, there may be besides the laying queen a virgin getting ready to take her mother's place.

The state of mind of the bees has an important bearing. When a colony first becomes conscious of its queenlessness, signs of distress are apparent; the bees have spells of running about over the front of the hive and entrance, as if seeking for their lost mother. While the bees are in this anxious state of mind, they are in a mood to accept almost any substitute, and in many cases no caging is needed, it being only necessary to drop the new queen among the bees. Afterward the bees start queen-cells, and seem to center their affections on these, philosophically determining to endure what can not be cured. If these queen-cells are taken from them, or if by any means they become hopelessly queenless, with no young brood from which a queen can be reared, then laying workers are likely to appear, and the introduction of a queen becomes more difficult than ever. Hence the advice given, to introduce when a colony has been only 2 or 3 days queenless.

The state of the harvest has a bearing. When honey is coming in abundantly, the bees are intent upon that, and pay less heed to the intrusion of a stranger. If no nectar is to be had from the fields, feeding must be resorted to. During a dearth matters are aggravated by the attacks of robbers, so it is well to open hives only after bees have ceased to fly in the evening.

The attitude of the queen herself has a bearing. If in a combative mood, the bees in their turn will be antagonistic. Hence the plan of some to let the queen fast half an hour, and then drop her among the bees, when, instead of showing fight, she will seek food, and conditions being favorable otherwise, she is likely to have a favorable reception. Another way to put her out of the way of any hostility, is to give her a douche of cold water, holding her in till she ceases to struggle, and then dropping her on a comb of brood or on a top-bar.

The bees are likely to receive a stranger more kindly if all is calm and quiet when she makes her debut; hence the plan of giving her in a cage to be liberated by the bees eating out a plug of candy. Then she comes quietly out of the cage without the excitement caused by opening the hive.

It is claimed that when a queen is in a hive long enough she acquires the peculiar odor o the colony. However that may be, it is certain that imprisonment in the hive for a time, protected from the attacks of the bees, tends to her safety when liberated. So the time of imprisonment is lengthened by having a piece of cardboard over the plug of candy, making the time longer for the bees to liberate her. Mr. E. T. Abbott advises this imprisonment without losing the time of the old laying queen. He puts the caged queen in the hive with the plug of candy covered by tin or otherwise, so the bees can not get at it, the old queen continuing to lay in the hive. Two or 3 days later the old queen is removed, and the covering taken from the plug of candy, when the bees do the rest.

With these general principles in mind, it will be seen that the method of introduction, given on page 718, which is in very general use, ought usually to succeed. But neither that nor the starving, nor the cold-douche method can be classed as "safe and certain" invariably. There is perhaps only one method in that class, and it is so exacting in its demands that it is not likely to be used often, although it may be well worth the trouble when a valuable queen is in question. Here is the method:

Take several frames of sealed brood, as much of it as possible about ready to emerge, but without any bee out of its cell; put the queen with these in a hive, allowing the queen's escort to accompany her if she has come through the mail with an escort of bees; keep the hive closed bee-tight for 5 days, making sure that there shall be no brood chilled, either by keeping the hive in a warm room (if the outdoor weather be too cool) or over a strong colony with double wire-cloth between the 2 stories, so the heat from below can rise without allowing communication with the bees; and at the expiration of the 5 days set the hive on its stand, open the entrance only enough for 1 or 2 bees to pass, making it larger as the colony becomes stronger. As the young bees that emerge have known no other queen, of course there can be no hostility.

But to give *several* safe and certain methods—that is asking a little too much.

Miscellaneous News-Items

San Antonio National Convention.—As previously announced, it is hoped that a special car-load of bee-keepers can be secured to start from Chicago for the San Antonio Convention Tuesday, Nov. 6, arriving there the morning of the 8th. The train leaves Chicago at 10:37 a.m. A round-trip ticket will cost $25, good for 30 days. A berth in a trourist-sleeper will be $4.25 for the one-way trip, as it takes 2 nights. Stop-overs on this excursion ticket can be had at any point south of Sullivan, Mo., 68 miles from St. Louis, both going and returning. Already several bee-keepers have notified us of their intention to join the special-car party. We would be glad to hear from others. We will reserve berths a little later, so that all can be accommodated. Next week we hope to have more to say about it. Any one who expects to go will do well to write us for descriptive matter about "Frisco Trains to Texas" and points of interest along the way.

◆

The Apiary of Mr. J. M. Reed, of Big Valley, Tex., is shown on the front page. When sending the photograph, on Aug. 7, Mr. Reed wrote as follows:

The building in the background is an old cotton-gin. Besides this apiary I have 2 out bee-yards, 3 and 6 miles from home. The good family with whom I make my home, appears in the picture with myself. The hives in this yard are of my own make, but, all things considered, I have decided that it does not pay to make hives, and I am now using the factory-made 10-frame Langstroth hives. The honey crop in this locality is a complete failure this year, and was short last year. I do not think this is a good country for specialists, and so I will move my bees to the vicinity of Uvalde county this fall. But, as already intimated, I am alone, and the prospect of having to "bach it" in that country is, to say the least, a little discouraging; but unless some one of our "bachelor" bee-keeping sisters can help me along this line, I may have it to do.

We Texans are delighted to have the National Convention at San Antonio this fall, where we surely hope to meet all those old veterans like Dr. Miller, G. M. Doolittle, and many others whose writings we have been reading so long; and we could never forgive them should they disappoint us.

J. M. REED.

◆

The Apiary of Mr. G. A. Bleech, of Jerome, Mich., is also shown on the front page this week. Mr. B. wrote thus on Aug. 7:

My bee-keeping dates back 22 years, when I began with 4 colonies in box-hives, one bee-book, one bee-paper, and the knowledge that bees had a stinger and would use it, and would sometimes produce a little surplus honey.

The first year ended with an increase to 12 colonies, and 160 pounds of comb honey. My diary shows that the second year ended with an increase to 20 colonies, and 600 pounds of comb honey.

From the second year until the present my honey crops have varied from 25 pounds per colony up to 160 pounds each, spring count. Last year was the banner year, with 8000 pounds from 50 colonies. The present season will be nearly as good.

My yard at present consists of 150 colonies—50 in 10-frame chaff hives, and 100 in dovetail 10-frame hives.

I am one of Dr. Miller's despised "farmer bee-keepers." At the National Convention in Chicago, last year, I heard him make an assertion in regard to the "farmer bee-keeper," from which I drew the conclusion that in the Doctor's estimation the "farmer bee-keeper" was worse than foul brood itself. Hold on, Doctor, don't shoot! but if you do, load your gun with honeyed pop-corn-balls.

I have never had a case of foul brood nor any other disease in my yard. I do not have to depend upon my farmer neighbors to grow clover for me, as the Doctor has to do. I grow from 20 to 30 acres of alsike clover myself, which, in my locality, is the best honey-producing plant growing. The honey from alsike clover is equal, if not superior, to honey from white clover, and it is a much better producer. I grow clover seed and furnish it to my neighbors within reach of my bees, at half the market price.

At the beginning of my bee-keeping career I produced comb honey, but during the last few years my honey has been mostly extracted.

I made my first 50 chaff hives, but of late years I have been buying hives in the flat, and think it the cheaper way, although I am a carpenter as well as a "farmer bee-keeper."

During my 22 years of bee-keeping I have always had a fall honey-flow; if not enough for surplus, at least enough for winter stores, so that I have never had to feed.

I prefer the 10-frame hive, and I do not think I could produce extracted honey without the queen-excluder. I have tried the "shook," the "shaken," and the returning plan, but for the production of extracted honey, in my estimation, there is no plan better than to let the bees swarm once. Only from 50 to 60 percent of my bees swarm. Cut all cells but one out of the parent colony, or cut all and give a virgin queen, are the plans I practise most.

Every 2 years I buy a half-dozen queens to put new blood into my yard.

I read 3 bee-papers, go to all bee-keepers' conventions I possibly can, and, if I live, and nothing unforeseen prevents, I will go to the San Antonio Convention in November.

G. A. BLEECH.

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Bee-Stings and Rheumatism. — We have received the following from Mr. C. P. Dadant, President of the National Bee-Keepers' Association:

MR. EDITOR:—I see, on page 753, that Mr. Hasty takes me to task for indulging in rheumatism, unless I am prepared to admit that bee-stings do not cure rheumatism. The truth will out, and I must acknowledge that the little bee is not to blame. She is still right in her mission of cure. But for some 2 years I have been taking it easy, and allowing the younger heads to take my place in the apiary. No doubt many of our old bee-keepers still remember me as the younger of the Dadants. But I am now the senior, and have done with the younger generation what my father did with me—I have pushed them forward, and they are now doing the principal work of the apiaries. I have not been stung more than a half-dozen times this season. So you see the fault is not with the bees, and I still preserve the faith that they can, and will, cure rheumatism by the miracle of their poison, if we expose ourselves to it with sufficient regularity. The proof of my faith is in the fact that I sent for some bees, while lying down, and "took" a few voluntary stings. Whether this or the doctor's poisons, or both, did the work, my rheumatism is all gone, and I am possibly a little healthier than before.

I do not feel that I could afford to let the matter go unnoticed, for if it proves me to be a little backward in bee-work of late, it also proves that the bee may still hold up her head as a healer of benumbed limbs.

C. P. DADANT.

Contributed Articles

Some Recent Apiarian Experiences

BY EDWIN BEVINS

Wishing, a few days ago, to have some queenless bees for cell-building, I went to hives with queen-excluding zinc on them, and supers with full-depth frames for extracted honey. From these supers I took 7 frames with all of the adhering bees and put them in an 8-frame hive, and confined the bees to the hive for 48 hours. Then I gave them a comb from another hive on which the queen had done her latest laying. The next day I had a queen arrive in the mail for which I had made no preparation, and so placed her on the frames of the queenless bees. Five days later I found that she was out of the cage, and also found about a dozen torn-down queen-cells. The arrival of this queen prevented me from reaching the goal I started for, but the experience seems to show me how a whole lot of queen-cells can be easily obtained, and how a queen may be safely introduced with bees, and honey can be taken from above excluders. At such times increase of colonies is a very simple matter.

PREVENTION OF SWARMING.

There was a time when I thought I would like to have Mr. Davenport tell us how to control swarming, but I have changed my mind. He seems to think he has something that he will neither sell for cash nor give away, and I, for one, am willing that his knowledge shall die with him. (May the day be distant.) The knowledge, if given, might prove to be the end of experimentation. At the present stage of the game the control of swarming, so far as the prevention of increase is concerned, is not a difficult matter.

I should have been much pleased if Mr. Alexander's plan, as published recently, had come under my notice earlier. The Stachelhausen plan has been my favorite, and will remain so unless the Alexander plan proves superior. It is not easy for me to reconcile myself to the idea of no swarming at all. I love to see the great, big swarms issue from the great, big colonies, and find a big lot of large queen-cells from which I can get queens to replace my oldest and poorest ones. This swarming is a sign that we are in a living world, and that something in this world is in a prosperous condition. Kept within moderate bounds, it is better, in my view, than no swarming at all. Mr. Davenport may hug his secret till the end of time.

One very important item in the restriction of swarming is an abundance of drawn combs at the beginning of the flow, and for some time afterwards. Besides cutting a considerable figure in keeping down excessive swarming, they make, in a poor season like the present, all the difference between almost no honey crop and one that is fairly remunerative.

Since about the middle of July, honey has been coming in very slowly. The bees seem to have been making a living, but only in rare instances has there been any storing in supers. That colony which had completed 120 sections about July 20, and did some work in others, has since that, filled and sealed 8 Langstroth frames put on for extracting or for feeding in spring. One or 2 other colonies have done as well or better than this one, but no record was kept of their work.

HOW TO PUT ON SUPERS.

A man in Nebraska who reads the American Bee Journal, and has lately started in bee-keeping, has just written me, telling of some of his practises and asking for my opinion of them. His practise in the production of comb honey is to put on empty supers above the one nearest the brood-chamber, citing the fact that the sections in the lower super are always well filled and capped, as the advantage he obtains from this practise. It is my opinion that this advantage is oftentimes gained at the expense of a greater one. With large colonies and a good honey-flow a vast number of bees will stay in the lower super, putting the finishing touches to the sections there that ought to be drawing out the comb foundation and storing honey in another super; and this other super should be put under the one next to the brood-chamber when the one next to the brood-chamber is about half filled. The practise may be a good one in a slow honey-flow, and near the end of any flow, but not at the beginning or in the midst of a heavy flow.

This correspondent says that he has at the present time 4 supers on each of 8 hives, empty supers being always placed on top of the filled and partly filled ones. This practise seems to me to be wasteful in the extreme. It carries with it a great reduction in the amount of honey stored during the season, and great damage to the combs of honey in the lower supers through travel-stain. In my opinion, a better practise would be to put a super with sections and starters under the first one where it is ½ or ⅔ full; then, if the conditions required it, a third one under the second. One would not as a general thing want to have more than 3 supers on a hive at a time. When another is added, it is quite likely that the first super put on is filled, and would better be taken away.

I work for the most honey and the least travel-stain, and I believe the above is the best way to secure such results.

Leon, Iowa, Aug. 29.

No. 18—Dadant Methods of Honey-Production

BY C. P. DADANT

FRIEND DADANT:—Give me a good plan to increase my stock in the spring; that is, a plan by which I may divide without too much of a sacrifice in stocking additional hives, and so as to make all strong for winter.—JULES BELKNAP, M. D.

FRIEND DADANT: — Having an extra-fine queen, and wishing to rear young queens from her and give to other colonies, how can I do this with the least trouble and least expense to the incoming crop?—J. E. J.

These two queries came almost simultaneously into my hands. I thought that I had given in detail our method of artificial increase, but in looking back over the previous articles, I find that the subject was only broached. As there is need of rearing queens for artificial increase, unless we can afford to buy them, the two queries may be the best answered by putting them together.

In this reply I will not attempt to give instructions to the man who makes a business of queen-rearing for sale. Commercial queen-rearing is represented by two methods—the Alley and the Doolittle plans—and so far nothing better need be recommended. I would give the preference to the Doolittle method, for the greatest number of queens from one mother. This reply is intended for those who wish to rear queens for their own use only, to a limited extent, and who wish to control the increase while making it at the lowest possible cost.

Those who have followed our plans of honey-production have found by this time that swarming is almost entirely averted. The number of swarms is hardly sufficient to make up for occasional winter losses. We are then compelled to use artificial methods of increase.

I have shown in previous articles (last March) that it is advisable to rear our increase from the best stock, taking into consideration honey-production, prolificness, gentleness, etc. We have always considered it of the highest importance to select our breeders carefully. Some of our leading apiarists, including Dr. Miller, select the queens that have furnished the best honey-gatherers, without regard to purity of breed. Whether this is right or not, we have not followed quite the same plan. We have always thought that the traits found in hybrids would not be as fixed and as sure of reproduction in the progeny as the traits found in pure blood, and for that reason we have never taken our reproducers from among the queens that are mismated, no matter how high a record they might have in honey-production. On the other hand, the Italians have been found so very uniformly better in most regards, and especially in gentleness, than the common bees, that we have always selected from among them. The other races, Carniolan and Caucasian, Syrian and Cyprian, are not sufficiently fixed, or have defects that render them objectionable in our eyes. But this is only a personal opinion. The bee-keeper is to be the judge for himself, and I am not inclined to differ from him, if he only makes a selection of such colony or colonies as he considers his best. As to the selection of drones by encouraging the rearing of them in some hives and the removal of the drone-comb in others, I have made that the subject of so many articles that I consider it unnecessary now.

Having selected our choice colony for queen-rearing at the opening of the honey crop, we do not wish to endanger that queen by transferring her from one hive to another. Queen-introduction has always been more or less risky by any method whatever, and the man who tells you that he never fails, is the one upon whom you must least rely. So we prefer not to change our queen, neither do we wish to weaken the colony, for if our selection has been correctly made, this colony will be one of the best for honey-production.

We select some other colony of fair strength, but it is not necessary that it should be one of the very best. We remove its queen and *all* the brood. (If the queen is really of value, we may make a small nucleus with her, or we may introduce her to some queenless colony.)

A few of these brood-combs are exchanged for the same number of brood-combs in early stages from our breeding queen, so that her colony loses none of its strength while furnishing breeding stock. If the colony that has been rendered queenless is thus supplied with half as many brood-combs as it had, and the space is contracted so that the bees are crowded on very few combs, we have this colony in as good a condition for queen-rearing as if it were preparing to swarm. The only addition that may be suggested is a little feeding in case the harvest is not well on. These bees will now go to rearing queen-cells from the choice queen.

If there is a doubt as to their making a sufficient number of queen-cells, several ways may be devised which will induce them to increase the number. The best way is to have the young brood on as new comb as possible and to cut notches into the comb. While repairing the damage done with the knife, the bees will usually see fit to build quite a number of queen-cells which they would not have built otherwise. Of course, with the Alley method, by which they use strips containing eggs or young larvæ in every other cell, or by the Doolittle method, which supplies queen-cells built artificially, a much greater number of queens may be reared, but we are now taking the most simple way of rearing queens without great preparations, and only for home use and artificial increase. If we go to the trouble of removing every other larva or egg in the combs that have been trimmed with the knife, we will avoid the building of too many queen-cells in clusters, which may not be separated without injuring the inmates. A queen-cell is a very tender object, and the bees usually destroy such as have been in the least damaged by the hand of the apiarist.

At the end of 10 days these queen-cells must be removed to be hatched separately, or the bees would destroy all but the first one hatched. This must be borne in mind while making our preparations, and everything must be made convenient to this end. The colony is meanwhile kept well supplied with food, so that the cells may not be neglected.

Some apiarists hold that queen-cells are reared only under the swarming impulse. I can not agree. We have followed no other method than the one I mention here, not because we consider the commercial methods as bad, but because we ceased to rear queens for sale long before either the Alley or Doolittle methods were in vogue. And as to taking queen-cells only from colonies ready to swarm, it is not practical. You can just as easily place your queen-rearing hive in conditions as favorable as those of colonies that are preparing to swarm, and you are not thus dependent upon the whim of the bees. As to the advisability and the success of the method I give, there can be no doubt. The crops harvested from such colonies as were produced by this management are sufficient evidence of its merit. Our method of queen-rearing has been followed not only in America, but in the Old World as well, and with uniform success.

On the 9th day after the colony has been provided with brood, the hive is opened and the queen-cells counted. One of these cells must remain in the hive to provide it with a queen; the others are to be removed and placed in separate nuclei, to be described in another article.

Hamilton, Ill.

Southern
Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Right Kind of Extracting Tent

In the Bee-Keepers' Review W. Z. Hutchinson says:

> "A tent is a makeshift at best. It is a last resort. If the weather is cool, or if the bees are gathering honey so the tent can be left open, or if it can be set up in the shade, it is not so bad as it might be," etc.

What kind of a tent do you use up there in Michigan for an extracting tent, anyway? After having worked in various kinds of buildings with the extractor, we would not exchange the tent we use for any kind of building to work in that we have ever tried. The top is made of 12-ounce duck, the gable ends of heaviest grade of domestic, and the sides and ends of the best grade of mosquito-netting bound around the edges with domestic. It is about 5 feet high, and fastened to the outside of the heavy duck cover with spring hooks and eyes. The tent is 14 feet long, 12 feet wide, and 9 feet high in the center. This makes an ideal tent for an extracting tent.

End-Bars and Shaking Off Bees.

Quoting from the same paper, page 248, Mr. Hutchinson says:

> "I recently had several days of experience in shaking bees off the combs for extracting honey, and it has only served to strengthen my dislike for Hoffman frames. As Mr. Chapman says, 'They have no handles.'"

I am glad to have so practical a man as Mr. H. on my side of the fence. Hoffman frames with short top-bars with staples in the end of the frame are a perfect nuisance in my hands. And I say this after having worked with them in large apiaries for several years. Give me the all-wood frame with full-length, *heavy* top-bars. It is as near a perfect frame as has been brought out yet, in my mind.

The "Old Reliable" and Bee-Supply Dealers.

I suppose the reason that some of the bee-papers that are rather light weight anyway keep up such a continual howl about the American Bee Journal being run in the interest of certain supply dealers belonging to the "ring," the "click," etc., is because they have nothing else to fill up with. My honest opinion is that they would far better leave such space blank, or copy something from a "dime novel" to fill up with, rather than continually to be saying slighting things against the old, well-established bee-papers. I have been reading the American Bee Journal off and on for more than 25 years, and if it is not run in the interest of the bee-keepers and honey-producers at large, there is no such journal published to-day. I say this only as a reader and a true friend of the good, old American Bee Journal, as I have no interest financially in it.

Only a Half Crop in Texas.

It is now fully settled that Texas will not have more than half a crop of honey, take the State over. All say, however, that the quality is good, and

American Bee Journal

that they are finding a ready market for it.

SOME WRONG ECONOMY.

I heard a bee-keeper say last spring that he read one article in his bee-paper on the management of weak colonies in early spring that was well worth $10 to him, and yet this same man had me order his bee-paper discontinued a little later. I call that poor economy. I am a great lover of bees, to say nothing of the dollar-and-cent side of the question, but if I had to keep bees without reading the bee-papers, I believe I would give them up.

DON'T LOSE HOPE IN POOR SEASONS.

Don't give up the bees just because it has been a hard year for them. If you do you are most sure to regret it, for it almost always happens that a good year follows a poor one for bees, and the very next year may prove one of the very best. L. B. SMITH.

Rescue, Tex.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Moving Bees to the Buckwheat Fields

Buckwheat honey has turned out much better than the white honey. Near the end of July, I prepared for moving to buckwheat. The best colonies had some combs fit to extract, but instead of extracting them, I piled them on weak colonies to be taken care of and kept free from moths. These combs are for feeding in a couple of weeks now if any feeding is necessary.

The balance of the honey in the supers which was too thin to extract, I simply left to be filled out and ripened up with buckwheat. I then put an extra super on all extra-strong colonies, making 2 12-frame Langstroths, or about their equivalent, on all strong ones, and one on all medium-strong ones. They were then stripped up with lath—3 on each—one on each side near the front, and one up the middle of the back. The covers were nailed on, and the screen slipped down in the portico and fastened, and they were ready to be loaded on the wagons. Any colonies that were weak I left at home, as there was a little picking for them there, and weak colonies do not store enough surplus to pay for putting much expense on them.

I always get enough teams to move a whole yard in one night. I get men whom I know and have confidence in that they will bring good teams and wagons, and will drive carefully. I tell them to bring a hay-rack with enough hay or straw tramped down in the middle and rounded up from the outer edges of the rack to be about level when the load of hives is on. After they have been urged to bring plenty of straw they generally do not have enough, so I get my eye on a near-by straw-stack, and have the men come early enough to get their wagons properly fixed up before the bees will be ready to load.

The men are also asked to bring a lantern, and enough light rope to rope their load. Some of them are sure to forget the lantern, but unless it is an extra-dark night one lantern besides my own is enough. That one lantern we put on the last load, so that the teamster driving ahead can see that he does not leave the last wagon too far behind.

There will also be a shortage of rope, so I have enough of my own to rope 2 or 3 wagons.

As soon as the bees are practically all home, we slip down the screens which close the porticoes, and fasten them. Then back the wagons by hand down between the rows and start loading. There must be no horses on the wagons while loading. It takes 2 men to load heavy hives properly, and 4 to hand them up. We make 3 rows down the length of the wagon, frames crosswise and porticoes turned outward. A 16-foot rack will take 8 times 3 12-frame hives comfortably, allowing for thickness of lath on the sides of the hives.

It is all a matter of distance, roads, and weight of hives, whether more are piled on top; but it is not wise to overload, especially for a long trip, and more especially when you want to treat your teamsters and their teams according to the Golden Rule.

Two ropes drawn lengthwise of the wagon—one over the top of each outside row of hives, and tied down tight to the front and back of the rack—will hold the hives nicely. Of course, the load will settle enough in the middle to let the outside hives lean in slightly.

At the end of the journey the hives are set in rows on the ground, and should be fairly well leveled up, though I do not bother with stands, as the sandy soil where buckwheat is grown dries out readily.

This year, being busy with other things, and knowing that every colony had as much storage-room as it was likely to fill, I did not see my buckwheat bees from the time they were moved until I was ready to extract. I then got help, took the extracting outfit, and went at them.

At one yard we had a good, large kitchen to extract in. The housekeeper is a bachelor, who lives in free and easy style, and rather enjoyed having us working around. We started when the flow was still on, extracting and taking supers off. This has two advantages — the robber-bees do not bother, and the honey that comes in later is crowded into the brood-chamber for winter.

Later, when storing and breeding are all over, I shall move the bees home again, weigh them, and if any are still light, put in the combs of white honey I have been saving.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Waxing the Floor

The good housewife puzzles her brain no little many a time to decide in just what way she shall dress that constantly down-trodden article of her care—the floor. It is matter for congratulation that there seems a tendency to get back to the simpler and more sanitary way of having part or all of the floor without any covering of wool or other material to foul the air when swept, and among the ways of dressing a floor when not so covered, beeswax has for centuries played its part.

Some of the sisters may desire minute instruction in the matter, and we are indebted to the courtesy of Mr. C. G. Chevalier for the following, taken from the Philadelphia Press:

> There are various ways of treating wood floors, but the best way is to wax them.
>
> Many preparations are sold ready for use, but if one happens to be in a neighborhood where they are not readily procurable—in the wilds of the country, for instance—the following polish makes a good substitute:
>
> Cut common white beeswax into thin shav-

ings, and pour turpentine over until well covered.

Let the preparation stand over night, by which time the beeswax will be soft.

Stir it into a smooth paste, and add turpentine until it is the consistency of thin cream; it is then ready for use.

Before applying the wax, wipe the floor perfectly clean with a dry cloth, and if there are any spots on it, take them off with turpentine or benzine.

Never, under any circumstances, use water on a floor that is to be polished. Apply the wax with a flannel cloth, being careful to put on but little at a time, in order to avoid a surfeit of stickiness.

Rub the polish well into the wood with a rough piece of flannel, or a piece of Brussels carpet until it shines like furniture.

Unless the floor suffers rough usage, it will remain bright for six months.

Dust it by putting a piece of flannel over the broom and sweeping.

Keep a piece of flannel at hand to rub any little spot where the polish may have become dimmed.

If, after long use and many waxings, the floor should seem sticky and dirty, clean it with turpentine.

Some people prefer simply to oil a floor. While this does not yield as high a polish as wax, it is satisfactory for a time.

An oiled floor should be gone over every week or two; even then the dust sticks to it, and it soon becomes dull. If anything other than wax is desired, it is better to oil and then varnish the floor.

Another means of polishing is to apply a coating of size, followed by one of walnut or oak stain, and subsequently by a third coating of varnish.

In any case, let the polish harden for 24 hours before the floor is used.

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Definitions—Feeding Bees

1. What is the difference between "nuclei" and "frame of brood?"

2. What is a "quilt" in bee-lore?

3. Is a whole sheet of foundation too much for one frame?

4 How can one determine when bees have sufficient food for winter, to carry them through successfully to foraging time in spring?

6. What is the best method for feeding bees? My bees starved to death last spring because of my ignorance of how to feed them. I now have 2 colonies, and want to winter them successfully. MRS. J. D. BLACK.

Albion, Ind., Aug. 20.

1. A frame of brood is a comb filled, or partly filled, with brood without any bees. A nucleus is the beginning of a colony of bees, or it might be called a small colony. It may have only 1 frame of brood, but generally 2 or 3, with bees enough to cover the brood. Of course, it would be a nucleus with only the bees without the brood, but a very poor one. So you see there is a very big difference between a frame of brood and a nucleus. *Nuclei* is the plural of the word *nucleus;* 1 nucleus, 2 nuclei. But the word *nuclei* is never used as an adjective. We do not say 2 nuclei hives, but 2 nucleus hives.

2. The word "quilt" is used rather loosely to apply to anything in the cloth line used to lay over the top-bars. It may be a single thickness of cloth, when it would more properly be called a sheet; it may be 2 or more thicknesses, or it may be 2 thicknesses with paper between.

3. No. A full sheet of foundation is the surest way to prevent rearing a whole lot of useless drones.

4. Try to have at least 30 pounds of honey in each hive. You can find this out by actually weighing the hive. Different kinds of hives with their covers and bottom-boards vary so much in weight that I can not give you exact figures; but you can get at it in this way: Weigh a hive with empty combs, or, in other words, weigh one hive without bees, brood or honey, then add to that 40 pounds to be the proper weight for each colony; the extra 10 pounds to make up for bees and pollen.

5. Early in September.

6. Use the Miller feeder. If you have none, then use the crock-and-plate plan. Fill a crock with sugar and water, equal parts; cut one thickness of heavy woolen cloth (or 3 or 4 thicknesses of cheese-cloth) in a circle to cover the crock; lay over this a plate upside down, then with one hand hold on the plate and quickly turn the whole thing upside down. Set this on the top-bars with an empty hive-body over it, cover up, and the bees will do the rest. If fed later a thicker syrup will be needed.

Doctor Miller's
Question-Box

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Keeping Honey Away from Ants—Frozen Honey

1. In reply to the question when to take off supers, you say, on page 691, "Take off each super when it is full." Now, will you please tell me how to take care of the honey after taking it off, until I sell or eat it? If I take the super off and put it, no matter where, the ants get at it.

2. Will honey keep all right if it freezes? MONTANA.

ANSWERS.—1. Keep the honey in a warm, dry, airy place. If warm and dry it doesn't matter so much about being airy. A place where salt will keep dry, and where it never freezes, is a pretty good place. One way to keep it from ants is to have it closed in something so tight-fitting that ants can not get to it. That's a hard thing to do, especially with a large quantity. An easier way is to put it on some kind of platform supported on 4 feet, each foot resting in some old dish or can kept supplied with some kind of oil or water. Perhaps you can kill off the ants. If you can trace them to their nest, you can give them a dose of bisulphide of carbon, or gasoline. You can wring a sponge out of sweetened water and put it where the ants will collect on it, then dip ants and all in boiling water, repeating the performance until you've used up the ants. This last you must of course do before the ants begin on the honey, for they may prefer the honey to a sweetened sponge.

2. Better put it down cellar if you have no other place where it will not freeze. It will not be much spoiled by freezing, but it will candy, and the bees are likely to waste some of it when candied.

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Chaff Hive-Cover—Pure Italians Less Liable to Disease—Miller Frames—Loss of Bees from Sprayed Bloom

1. You speak in your book about liking the double hive-cover with a dead-air space. I'll tell you what I like better. It's the same cover with a ⅞ space instead of ⅜, the space to be filled with chaff. They are a great thing when one winters bees outdoors, and I think they help to keep the supers warm during cool nights.

2. You say your bees are hybrids—I suppose with Italian blood predominating. Now my main reason for keeping pure Italians only is something the books and journals don't often mention; that is, that I can handle at least a half more colonies. Don't have to spend so much time smoking the bees, and finding queens is rapid work. If you had pure stock you wouldn't need to worry about playing hide-and-seek.

Another main reason with me for keeping Italians is their resistance to disease. There are two diseases widespread in this State, and one of them does not trouble the Italians unless it is introduced by giving them infected combs; and even then it is not very serious. But it works havoc with the blacks and hybrids. I lost a hundred colonies before I learned the trick. I don't know what to call the disease. Most people call it foul brood, but I am pretty sure it is something else.

3. I use the Miller frames, and want to buy a thousand this fall. Do you think it would pay to have them made special 1⅛ wide, when I can buy them already made 1 1-16? That is, in other words, do you think burr-combs are noticeably less with ¼ inch than with 5-16 between the top-bars?

4. Have you ever had any serious loss of bees from poison being used to spray apple-trees? ILLINOIS.

ANSWERS.—1. Very likely ⅞ is better than ⅜, and I'm sure it is better to have the space filled with chaff.

2. I'm wondering just a little whether you are dead certain that there is no black blood in your bees. Are all the bees within 2 miles pure Italians? Your reason for keeping pure Italians — greater rapidity of handling — wouldn't count in this locality. We use no more smoke than is necessary—no more for grades than for pure stock—and we handle one just as fast as the other, even if we do get more stings. As to finding queens, I don't know that grades are harder to find than pure Italian, except that some queens, which are very dark, are not so quickly seen as brighter ones. Sounds a little as if you were making a comparison between Italians and blacks rather than between Italians and grades—quite a different thing. Yet don't understand that I would insist on keeping grades. It may be better to keep pure Italians—if you can.

3. I really don't know. I don't suppose that 1-16 makes so very much difference; bu I have never tried it. There are more comb built between my top-bars than I like. Morle Pettit says—and Morley Pettit is a man fo whose word I have respect—that it is becaus-
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my top-bars are ⅞ thick, while his top-bars are ⅝ thick, and he has no trouble with building between them. If I had to get a lot of new frames, I think I should do some experimenting as to thickness before I got fully stocked up.

4. I think not; but I have some trouble with spraying in time of cherry-bloom. The owner of a large cherry-orchard is one of the best and straightest men in the community; but somehow he can't get it through his head that he is hurting himself by spraying when trees are in bloom; and he says if he doesn't begin spraying a little before the bloom falls that he can't get through the whole in time. When as good a man as he is can not see any wrong in subjecting me to serious loss for the sake of a little inconvenience to himself, it shows that no effort should be spared to have Illinois come to the front like some other States, with a strict spraying law. If I understand the matter rightly, a man lays himself liable to penalty if he puts out poison purposely to kill my bees, but if he poisons them incidentally while spraying fruit-bloom, he goes scot free. Let us hope that the effort to get the right law that came so near succeeding last time may succeed entirely next time.

Extracting and Feeding Back

The season for gathering honey since July, has been very bad, and the brood-nests in all my colonies in 8-frame hives are, you might say, empty now. I run my colonies for extracted honey in 5⅜x17⅝ frames. I have on hand enough supers of this size, well filled and sealed. Will it be good policy to leave one of these well-filled supers on each hive for winter stores over comparatively empty brood-combs, or would it be safer to extract this and feed back into brood-frames? My latitude is parallel 39, or about this. Feeding back is considerable work, but I am willing to do so rather than to risk uncertainties. MISSOURI.

ANSWER.—I don't believe I would be to the trouble of extracting and feeding back. There is little doubt that the bees will carry down enough honey for winter stores if you put a super of shallow frames over each colony, especially if you mash the surface of the combs in the shallow frames. If the honey were not carried down to your liking, there is no law in latitude 39 degrees against leaving a super on each hive all winter. You could also, after brood has hatched out of them, take 3 or 4 frames out of the lower story, crowd the rest of the frames to one side, and put in 3 or 4 of the shallow frames solid full, working them out in the spring before any brood gets in them, provided, of course, that the frames in each story are of the same length.

Late Building Up of Colonies—Feeding Bees Maple Sugar

1. I bought 3 colonies of bees last winter. When spring came one proved very light, with only a few bees but a good queen; one had lots of bees and no queen. They doubled up, leaving me 2 good colonies, but one had combs built solid in the hives and all crooked. We took a hive with 10 frames and starters and put the hive with bad combs on top, and they moved into it all right. We did not want them to swarm, so cut out all queen-cells and have not had a swarm this summer. I bought 3 Italian queens, fitted up 3 10-frame hives with starters, gave them some brood, and set them in place of old hives. I have now 5 hives well filled with bees. Now one of these has been queenless nearly all summer. It had a queen a little while, then she disappeared. I gave them a frame of brood with a queen-cell; she filled a number of frames of brood and then disappeared. Then we tried introducing an Italian queen, and although successful with our other 2 colonies, they would not have her—balled her after they let her out. Then we rolled her in honey and they cleaned her; then they stung her so she died. Then we gave them a frame of Italian brood with 3 sealed queen-cells. Now these all hatched 10 days ago, and all my other hives have sealed and unsealed brood, but there is no sign of a queen in this hive. The others are well stored with honey, but this one has hardly any. Would you divide them with the other colonies? I have had them fill 10 frames with honey to feed in spring, but otherwise they have stored very little.

2. I have some maple sugar that has been damp so it is unfit for market. Would this make good food for bees? MAINE.

ANSWERS.—1. It is pretty late now to do very much in the way of building up, as queens are letting up on laying, and if I understand correctly, very little brood has been in the hive in question for some weeks, so the bees are old and likely to die off badly in winter, if not before winter, so it will be advisable to break up the colony, distributing the bees among the other colonies as you suggest.

2. It may be profitably fed next spring after bees are flying, to be used up in rearing brood; but don't give it to the bees for winter food.

Extra Frames After Uniting

If I unite 2 colonies in the fall, what can I do with the frames in the hive from which I drive the bees? MONTANA.

ANSWER.—Just what shall be done with the extra frames depends upon circumstances. If empty they may be kept almost anywhere outdoors or indoors, only so mice can not get at them. It is better if they are where they are allowed to freeze, as then any eggs or larvæ of the bee-moth will be destroyed. If only a little honey is in them, they may be put a few rods from the apiary for the bees to clean out before being closed so mice can not get at them. If enough honey is in them to make it worth while to be kept for needy colonies next spring, put them down cellar, of course looking out for mice.

Reports and Experiences

Bees Did Well

Bees have done very well here so far this season, and there is a fine prospect for a good flow from asters and golden-rod. I have 174 colonies in fine condition, and have sold 63 colonies this season. W. S. FEEBACK.
Carlisle, Ky., Sept. 9.

Horsemint—Sowing and Growing

One of the best honey-plants of Texas is horsemint (Monarda punctata) which grows wild over a large portion of the State. From it tremendous crops of honey are procured during some seasons. This being the case, I have gathered a few seed which I have sold to the editor of the American Bee Journal for his distribution, thinking that possibly it will assist some bee-man who wishes to grow pasturage for his bees.

Horsemint begins to bear honey while it is very young and small, and continues for 6 to 8 weeks. It grows from 6 inches to 4 feet high, and as thick as wheat. It is a very hardy plant. It is a great drouth-resister after it gets an inch or so high, and stands any amount of cold weather with impunity. Zero temperature does not hurt it. It germinates every year when we have rains at the right time; otherwise the seed will be dormant for years and then come up. In this latitude it must have a good, heavy rain, and the ground kept wet and moist for a week or two and real seasonable a week or so after that, to get up a good crop of it and get it started. This wet spell must come here from Oct. 15 to Nov. 15, or we will have no mint the following year. It must come up and get a little start about one month before frost. It will not come up after late in December or January, no matter how much rain may fall thereafter. This accounts for its periodical growth here. It will fail to come for 2, 3, or 4 years at a time, then the following year after a wet fall we have an excellent crop of mint if it is any ways seasonable the following spring.

It grows here on any kind of land, all over the prairies, in the woods, amid grass and trees, in the fence-rows, in fact, anywhere where other wild weeds grow. It does far the best on good, rich soils, especially accumulated soils where water has washed it into beds. I believe under proper cultivation, fertilizing, and irrigation, that 5 or 10 acres of it will give honey returns that will startle the most conservative. Under such management a single stalk every 2 feet each way will make a solid bed of tassels as thick as wheat or barley. Remember that the variety here will make from 1 to 10 blooms or seed-rings to a stem.

We never cultivate it here, but from what I know of its natural habits I will suggest the following culture-methods for it:

Plant the seed about one month before frost is expected in the fall, and keep the ground moist, allowing very little or no crust to form until the plants are up. Plant the seed about 2 feet apart in rows, about ½-inch deep, 3, 4, or 5 seeds to the hill, so as to be sure of a plant in each hill. The overplus of plants can be transplanted during a wet time, if desired. Cultivate the weeds away as in other crops with plow and hoe until it begins to bloom, then stop. If you have good soil and a location that suits its growth, you can expect the plants to grow 3 feet high and 2 feet across. T. P. ROBINSON.
Williamson Co., Tex., Sept. 10.

[We have 50 small sample packets of the horsemint seed, and so long as they last we will send them postpaid for 10 cts. each; or to any one sending us $1.00 *at once* for the American Bee Journal for 1907 (of course including subscription arrearage, if any) we will mail a packet of this seed *free*. Address the office of the American Bee Journal.—EDITOR.]

Bees Did Fairly Well

My bees have done fairly well this season, giving an average of 70 pounds of comb honey per colony; but I think they should have done better, as the best colony gave 140 pounds, and the poorest but 14 pounds. Poor stock is the cause, as all received the same treatment. D. G. LITTLE.
Hartley, Iowa, Sept. 6.

Poor Season for Bees

This has been a poor season for bees here; not a pound of honey. But they will have enough for the winter. S. N. BLACK.
Clayton, Ill., Aug. 6.

Good Honey-Flow

The honey flow was good for this locality, which is rather a poor one. Twenty colonies, spring count, averaged 44 pounds each, with no swarming, natural or shaken.
Metchosin, B. C., Aug. 26. W. FISHER.

A Good Honey Season

I am getting a fine crop of honey this season. I have 2 out-yards, and the basswood yield was up to the average this season; white clover also gave a good yield here. My average up to date is about 50 pounds per colony, and the fall crop to come yet, of which I expect a fair yield. We have had frequent rains of late, which will help the honey-flow along. I never have seen the fall bloom look any better at this time of the year than now. Everything seems to be just right for a good fall crop of honey. The boneset is in bloom, and the goldenrod is coming into bloom, besides all the different asters to come yet, and a number of other fall flowers too numerous to mention. JOHN M. REY.

Saginaw, Mich., Aug. 10.

Black Medick

I enclose a plant. Please give its name through the American Bee Journal. I never saw or heard of it before last year. It is scattered along the roads. I saw a few stems of it in a meadow as much as 80 rods from the road. A. P. RAUGHT.

Round Lake, Ill., Sept. 12.

[The plant in question is Black Medick—Medicago lupulina—and belongs to the famous Pulse family. This plant is closely related to the clover, the locust tree, the vetch, the everlasting pea, and other plants famous for good honey. Black Medick is a native of Europe, and since its advent into this country has been slowly spreading westward.—C. L. WALTON.]

Poor Honey Season

This has been a poor honey season—about 40 pounds to the colony in my apiary.

Attica, N. Y., Sept. 4. JACOB F. KROPP.

Too Much Rain for Bees

Bees are not doing much these wet days. It has rained for 2 months, only missing 3 or 4 days. They did fine up to the time of the rain. I took about 2000 pounds of honey during June. The prospects are good for a fall flow, if it will quit raining in a few days. Basswood is a complete failure again this year. Bees are in fine condition.

Mast, N. C., Aug. 28. A. J. McBRIDE.

Bees Working on Red Clover

The bees did not commence swarming in this locality until May 28. I have taken off 75 pounds of comb honey per colony, and have another 75 pounds to come off yet. Some of my red clover honey is of the same color as the bloom—a pink red; it has the flavor of the bloom also. About July 12 my bees were working on a patch of red clover about a mile from here, until about 9 o'clock in the morning. I could hear every 5 or 10 minutes my bee-gums cracking and settling down (?), and the bees were so heavily loaded coming home that some of them would drop on the ground a hundred yards from the hive. Mr. Reed found a swarm of bees on a tree. From the appearance of the comb it looked as if it might have been there a year.

Lately I had a queen-bee that laid about one egg a week. It was hard for me to find her. JAMES L. A. MILLER.

Gasconade Co., Mo., July 22.

Light Crop in Southern California

The honey season in this part of Southern California is nearly past, as there is not much surplus secured after July, and the crop is light, probably not more than ¼ of a full crop. The mystery is, why the flowers have failed to secrete nectar. After such a liberal rainfall as we had last winter, and flowers of all kinds in profusion, everybody expected the greatest honey harvest known for years, but the result is, hives full of bees, and plenty of empty cases to carry over, but not enough honey to pay expenses. In apiaries where little effort is made to limit swarming there has been the usual amount, but in my own apiary of 125 colonies there have been but 5 swarms during the season. I think my bees have stored more honey in the brood-chamber than they do in good seasons, but I have not extracted any from them, and, in fact, I have not extracted at all yet, where I usually have 3 or 4 extractings. However, the supers will be pretty well filled for the final clean-up.

F. C. WIGGINS.

San Diego, Calif., July 24.

Results of the Season So Far

Bees are working in the supers now, and have been for nearly a month; but for some reason super-work is very slow this year.

The first crop of alfalfa failed to bloom, so we had no swarming (that we know of) until in July. The second crop did not start until it rained, and then it blossomed immediately. It was too short to cut for hay, so the alfalfa men left it for seed. This is once when dry weather was a blessing to bee-keepers. Alfalfa is principally grown for hay here, and it is very seldom left for seed, and, of course, we get but very little honey from "a hay crop."

Last year was very poor—too wet and cold. I got some very fine comb honey, even though it was a poor season. I wintered all of my colonies safely in a shed. Many other bee-keepers lost a large percent of their colonies.

This season, up to date, has been poor. We will have some water-clear alfalfa honey, but not more than 25 pounds of comb honey per colony. ROBERT A. JEFFREY.

Huntley, Nebr , July 28.

Another Good Queen

I wish to add a little to what has been said already in Mr. Ferris' defense, as I know it is possible for a queen to occupy 14 frames. I had one queen this season that occupied 16 frames, and they were ¾ filled with brood, every one of them.

Now, if Mr. Hasty doesn't gag and get too sick over this, and will come to see me, I will be only too glad to show him this "wonderful queen!"

In answering the last question on page 653, I wish to say that the condition of this test was 8 frames of brood placed under a good, strong swarm and left 21 days. I found the queen working in both the upper and lower stories the third day after placing it under them, when it was removed, and the 16 frames were just as full of brood, I will venture to say, as any that Mr. Hasty ever saw, or will see. This queen might have done better if she had had plenty of room.

Now, I do not want Mr. Hasty to get out of patience with me, for I am going to make him a visit this fall. E. T. CARR.

Wood Co., Ohio, Aug. 6.

Alsike Clover — Lonesome Bee-Man

On pages 653 and 654 is a statement against alsike clover that I never heard, and I am 53 years old. I have fed it exclusively, winter and summer, for 5 years, and with nothing but the best results to both horses and cattle.

Well, I have started in for keeps with the honey-bee. I have invested a little over $700 in bees and supplies. I had 28 colonies, spring count, and now have 51 colonies. I bought 16 pure-blooded queens—10 Italian, and 6 Carniolan—but they "all look alike" to me. I think I have supplies enough to run my bees up to 200 colonies. What I need now is the other half of myself to be complete. That is what my friends say. But suppose the other half did not love the honey-bee, then I think there would be war between those two halves. Anyway, I will leave it to Dr. Miller, and hope he won't say, "I don't know."

I will extract about half of my honey next week—that part which has been capped over from 10 days to 3 weeks; and then I can tell more next time as to how it "panned out."

CHAS. M. HOPSECGER.

Clear Lake, Wash., Aug. 9.

CONVENTION NOTICES.

The Southern Bee-Keepers' Association will meet in Atlanta, Ga., Oct. 11 and 12, 1906, during the State Fair, on the Fair Grounds. All interested are invited to attend.

JUDSON HEARD, Sec. and Treas.
J. J. WILDER, Pres.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

Missouri.—The annual meeting of the Missouri State Bee-Keepers' Association will be held at the Circuit Court Room at Marshall, Mo., Oct. 2 and 3, 1906. All bee-keepers are invited to attend and to join the Association. Excellent hotel accommodations can be obtained at reasonable rates, or board and lodging can be secured at 50 or 75 cents per day at private boarding houses, for those who will write to Mr. Tribble, asking him to arrange for them. There are over 41,000 bee-keepers in Missouri. Let there be 1000 of them at Marshall, Oct. 2 and 3.

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6 " " " " Nov. 1st
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JAMESTOWN, N. Y.

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Headquarters for Bee-Supplies

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Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI OHIO
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Sept. 8.—The receipts of comb honey are quite large and there is also a good demand for it, so that prices are well maintained at 15@16c for No. 1 to fancy; anything short of these grades is not selling freely and ranges from 1c to 3c per pound less; buckwheat, 12½c; dark grades, 8½10c. Extracted, white, 6½@7½c; amber, 6@7c; dark, 5½@6c. Beeswax, 30c. R. A. BURNETT & CO.

TOLEDO, Aug. 20.—The market on honey has not changed much since our last quotation. Bee-keepers seem to be holding their goods expecting large prices. Fancy white comb brings in a retail way 16@17c; No. 1, 15@16c, with no demand for dark. Extracted white clover, in barrels and cans, brings 6½@7c; but very little has been offered as yet. Beeswax, 26@28c.
GRIGGS BROS.

INDIANAPOLIS, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, Sept. 10.—New comb honey has been arriving quite freely in the last 10 days from different sections, but from all reports we are confident that the crop is much short of last year, and prices are going to be much higher. Some parties who are shipping are asking as high as 18c and will not sell for any less, We quote: Fancy white comb honey, 16@17c; No. 1, 14@15c; amber, 12@13c. Fancy white extracted honey, 7@8c; light amber, 6@7c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Aug. 18.—There is a good demand for new crop comb honey, but arrivals are very small as yet, and will continue so for a week or two to come. We quote fancy white at 15c; No. 1 white at 14c; No. 2 white at 12c; it is too early as yet for dark or buckwheat. Extracted is in good demand at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Southern, common average grade, 50@55c per gallon; better grades at 60@65c. Beeswax firm at 30c.
HILDRETH & SEGELKEN.

CINCINNATI, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¾c. Beeswax, 30c.
C. H. W. WEBER.

DENVER, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, Sept. 10.—Receipts of both comb and Extracted honey are light at present and the demand is good. We quote: No. 1 white comb, 24-section cases, $3; No. 2, $2.75. New extracted, 6@6½c. Beeswax, 25c.
C. C. CLEMONS & CO.

CINCINNATI, Aug. 18.—Fancy and No. 1 comb honey find ready sale at 14@15c. Shipments arriving daily. Lower grades are not wanted here at any price. There is a good demand for extracted honey; amber in barrels and cans, 5@6½c; white clover, 6½@8c. (These are our selling prices.) Beeswax, 28@30c.
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To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping-cases; also extracted honey. We are cash buyers, and remit on receipt of goods.

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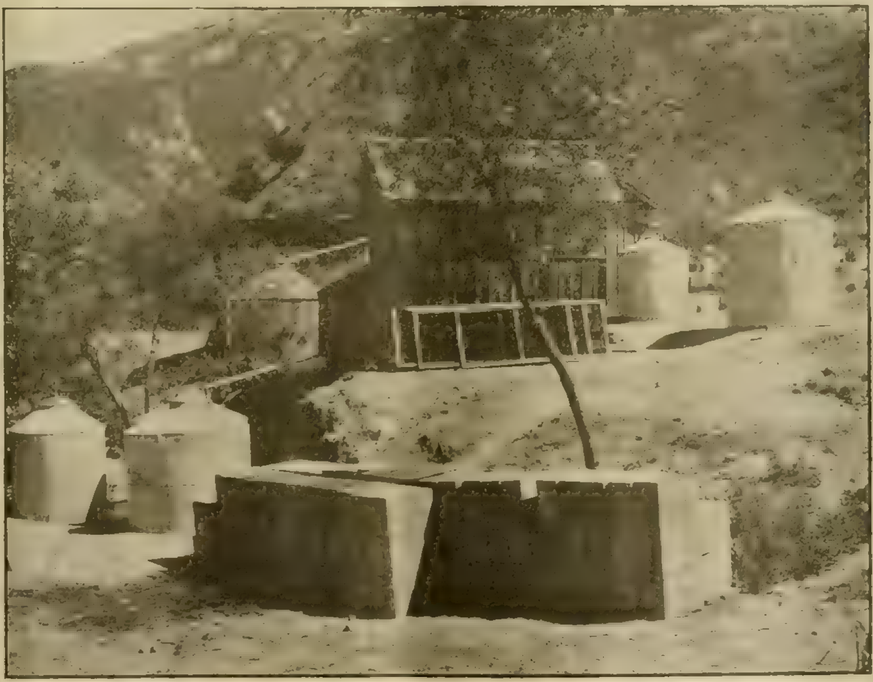
AMERICAN BEE JOURNAL

MASSACHUSETTS AGRICULTURAL COLLEGE

46th Year CHICAGO, ILL., SEPT. 27, 1906 No. 39



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(Mr. M. is one of the most extensive honey-producers of Southern California. Notice the pipe that conveys the honey from the extracting-house to the storage-tanks. As one tank becomes full, the pipe can be changed to another. In the foreground is a pile of extracted honey in 60-pound cans, boxed, ready for market.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

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Goes to press Monday morning.

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Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

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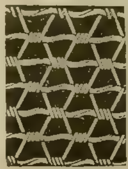

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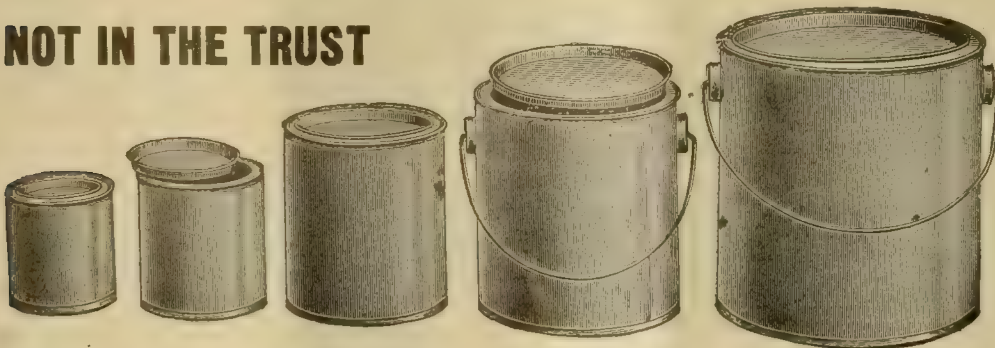

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There are people all around you wanting pianos and organs but who for safety and economy will not buy from agents or supply houses.

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Now you see why we want to get a fine sample piano or organ into your neighborhood and why we are willing to make you a special "Sample Offer" and to pay you for showing the instrument and for sending us the names of buyers.

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Write name of paper on this line
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☞ J.G. Goodner, of this State, writes me that "he prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

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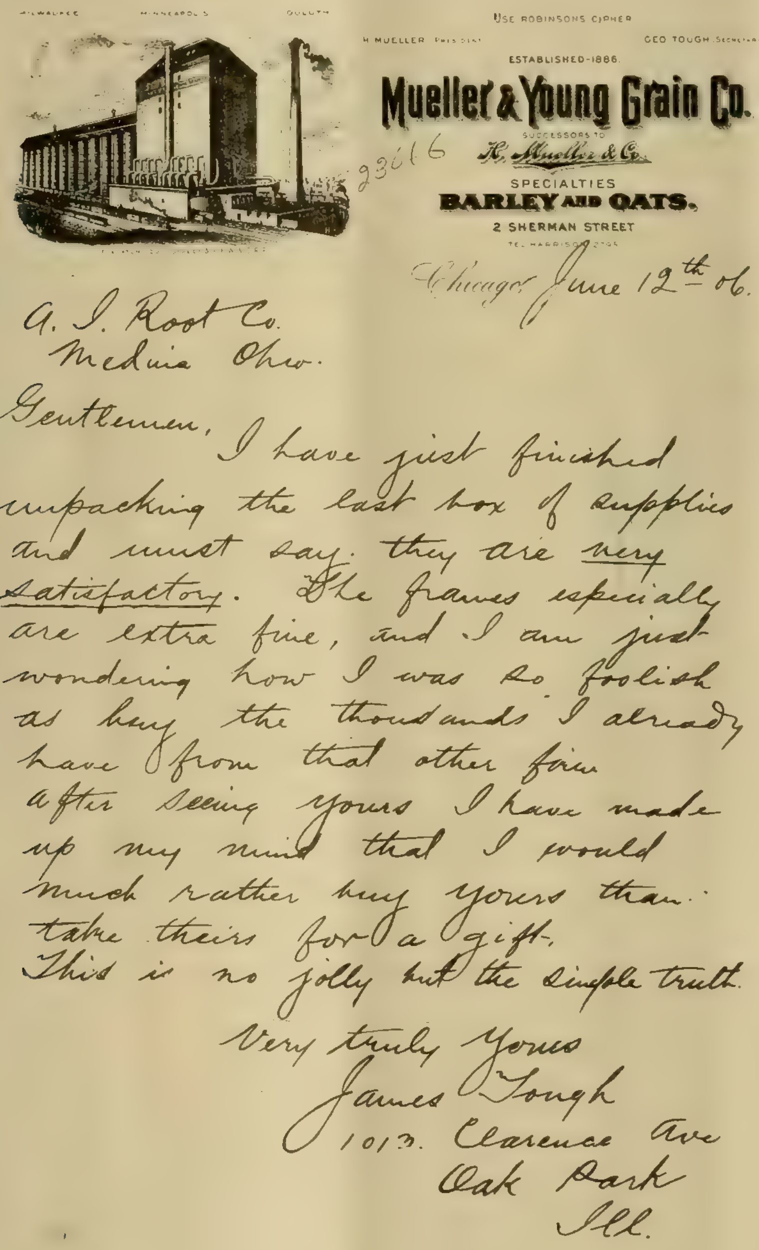
Yours very truly, **THE A. I. ROOT CO.**



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Get your order off at once and claim our 7 percent September early-order cash discount. If you can't make up your specifications to-day send along your remittance to cover approximately your needs, and claim the discount, and let your order follow by later mail. If you want goods to the amount of $50 remit us only $46.50. Other amounts in proportion. Claim the benefit of the discount when your remittance is sent. Send orders and remittances either to our home office, branch offices, or jobbing agents. Notice list of names of principal dealers in last issue of this paper.

Dealers at remote points can not always make the same prices and discounts that we do at Medina, but are able to do so in many cases. Correspond with such dealers direct on these matters.

THE A. I. ROOT CO.

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor CHICAGO, ILL., SEPTEMBER 27, 1906 Vol. XLVI—No. 39

Editorial Notes and Comments

Feeding Glucose to Bees

We have received the following, in reply to a request made recently in these columns in regard to feeding glucose to bees:

> Mr. Ernest W. Reid, on page 701, wants to know if any one has succeeded in getting bees to eat glucose. I fed some to my bees in July, and they ate it all right. I bought the stuff for 1 cent per pound, with which to experiment. It was during a very dry spell that I fed about 50 pounds. I made a syrup and fed in the open air about 200 yards from the hives. It was at a time when there was nothing to get from the flowers. The syrup was made by adding water and heating it until it was all dissolved. I did not feed enough for the bees to store any in the supers. I do not think they would store any of it, for I tried to get them to eat glucose at a time when there was nectar in the flowers, but they would not touch it. MISSOURI.

As bees do not take enough glucose to store in the supers for surplus, there is really no excuse for talking about the matter. If they will eat only enough to keep them alive, the feeding of glucose has no bearing at all on the question of honey for market.

Chicago has at present a Chief Food Inspector who is stirring up things considerably in the line of adulterated food products. In a recent issue of the Chicago Record-Herald he gave a list of such articles as he had discovered were adulterated, among them being the following:

> "Honey in comb—80 percent glucose. Glucose is fed to the bees and they put it in the comb and seal it up."

We at once wrote to Mr. Murray, the inspector, asking him for the authority for the statement concerning comb honey. Up to this time we have received no reply from him. If his statements regarding other supposed adulterated food articles have no more foundation than the one about comb honey being 80 percent glucose, he is not to be depended upon at all. If bees can not be induced to use more than enough glucose to keep them alive, how foolish it is to talk about 80 percent glucose in comb honey.

Some years ago, Mr. France, the General Manager of the National Bee-Keepers' Association, made some experiments in feeding glucose to bees, and utterly failed in getting them to take enough worth mentioning.

There are a lot of foolish folks in this world that talk nonsense, just because they know nothing about the subject on which they attempt to speak. More harm is done by such utterances than can ever be undone. It is much like saying that comb honey was once manufactured, because a little deep-cell comb foundation was made. Deep-cell comb foundation is not honey at all, although it may appear to be something like empty honey-comb. There is a world of difference between *honey-comb* and *comb honey*. And yet, recently, when the matter of deep-cell comb foundation was referred to, it was mentioned as if it were perfect comb honey, made by machinery. And while the thing was exceedingly misleading, the worst of it all was that it was written by a small bee-keeper who imagined he was doing a great thing in the interest of truth! Fortunately the statement appeared in a somewhat obscure publication. But it may be dug up some time and quoted with great gusto as being indisputable evidence that comb honey was really manufactured by machinery, when it never has been, and very likely never will be so produced. Comb honey is the product of bees only.

◆

Freight-Rates on Honey

Mr. D. G. Little, of Iowa, asks concerning freight-rates on honey as follows: "Will you please give, in the American Bee Journal, the classification of freight-rates on comb and extracted honey. I have been told by the agent here that comb honey is 1½ times 1st Class, and extracted in cans is double 1st Class. Is this right?"

On receipt of Mr. Little's letter we requested the Chicago & Northwestern Railway Co. to furnish us with the information desired. In response they sent us a leaf of their freight-rate book, from which we copy this:

HONEY.

In pails, and in cans N. O. S.	D 1
In cans, boxed	4
In flat-top jacketed cans, completely enclosed in wood	4
In cans, crated	3
In glass jars, boxed	2
In glass tumblers, boxed	2
In kegs	4
In barrels or casks	4
In boxes, N. O. S	1
In boxes, with glass fronts exposed	1½
Granulated, in pails, boxed	2

In the foregoing, it will be seen that comb honey in glass-front shipping-cases is 1½ times the 1st Class; extracted honey in cans, boxed, is 4th Class, and in pails and cans, N. O. S. ("Not Otherwise Specified"), double 1st Class. This seems entirely inconsistent, for if the glass fronts are exposed the contents can be seen, and thus cause the freight-handlers to use more care than if the comb was entirely out of sight. Of course, bee-keepers do not make the freight classifications and rates, so they have to abide by the rulings of the railroads.

◆

Limiting Drones of Poor Stock

Trouble again in the editorial family of the American Bee Journal. Dr. Miller writes:

> Mr. Hasty, referring to my advice on page 489, to keep all drone-comb out of black colonies, says on page 639: "Practically, you can't keep a rousing colony of bees from rearing *some* drones if they want 'em." How much chance is there for drones if you cut out every cell of drone-comb and put in its place patches of worker-comb? You can use old worker-comb for patches, and I have never known bees to change old worker-comb to drone-comb, no matter how badly they wanted drones. Or, if you slice the heads off sealed drone-brood every 3 weeks, what chance is there for drones? But not every one would be likely to take the trouble, and if that's what he means when he puts in that

"practically," then I agree with him that there will be likely to be *some* drones.

He then continues: "And the few they do succeed in getting, will do more mischief—meet more queens—than ten times the number of ordinarily-reared drones would do, on account of being pampered and treated at home much as the queen is treated." As he esteems that "the straight truth on a rather important subject," I wish he would tell us how he *knows* it to be true. I wish, too, that he would say what he thinks the right advice in the premises; for so far he is only tearing down without building anything better. Perhaps, also, Mr. Editor, you would do a little figuring for us, helping to a decision as to what is wise practise. C. C. MILLER.

If that desire for "a little figuring" implies that Dr. Miller thinks it is a matter of mathematics pure and simple, he is very much mistaken. The only chance for any "figuring" in the case seems to come from that "10 times"—the few husky, pampered drones doing "10 times" as much mischief as the drones of better quality reared in larger numbers. That is. 100 pampered drones will meet more queens than 1000 unpampered ones. Then, to meet the case, why not increase the number of unpampered ones—pit 2000 unpampered against the 100 pampered, and there you are; odds in favor of the unpampered drones of better stock. But something besides mere figures comes in. If it be a matter of swiftness of flight, then numbers do not count at all; for the swiftest drone will win, and if he is the swiftest in the field, he will win just as easy against a million rivals as against one.

That being the case, why not reverse the practise, limiting the number of drones in best colonies, so they will be pampered into sure winners? But there comes the troublesome question as to whether we know that the few drones in a colony are fed any better than a larger number? Some will be just troublesome enough to ask, "Are not ordinarily-reared drones fed all they want? And if pampered, does not pampering tend to sluggishness rather than activity?"

Plainly it is not a clear case of "figuring," and the whole question is handed back to the two disputants.

Miscellaneous News-Items

Mr. E. L. Hall, of St. Joseph, Mich., dropped in to see us while in Chicago lately. He also brought with him a basket of the most delicious Bartlett pears as a donation for the home table of the Editor and wife. Many thanks, Mr. Hall. Call again!

Mr. M. M. Baldridge, of St. Charles, Ill., gave this office a pleasant call recently. Mr. B. is one of the oldest bee-keepers in this country. He was a contributor to the columns of the American Bee Journal in its first volume, in 1861, and has been keeping bees, and writing occasionally, ever since.

Mr. James A. Green, of Grand Junction. Colo., wrote us Sept. 15, as follows:

> "Although the first part of the season did not amount to much, some of my apiaries have been doing very well for the past month, and I will harvest a full honey crop."

Mr. Green is an inspector of apiaries as well as an extensive bee-keeper, as most of our readers know.

His "Honey" Accounted For.—Mr. Stadler Menhall, of Louisiana, sends us the following, which, although referring somewhat to the sisters, may appear in this department, as we have not asked Miss Wilson's permission to include it in hers:

> A New Hampshire newspaper man, who is very fond of honey, visited a near-by city, and at one of the hotels he was served with some delicious honey. He enjoyed it so much that he told his wife all about it when he returned home.
>
> On his next trip to the city she accompanied him. They visited the same hotel, and when the noon meal was served, he said to his wife he hoped they had some more of the honey.
>
> It did not appear, however, and beckoning to a waiter, he said: "Say, Sam, where is my honey?"
>
> He was almost paralyzed when that worthy grinned and replied: "She doan work here no more, boss; she done got a job at the silk mill."
>
> The wife received a handsome new dress before they returned home, after making a solemn promise not to tell the story.

Mr. W. D. Soper, of Jackson, Mich., received seven 1st premiums, five 2d premiums, and two 3d premiums on bees and honey at the recent Michigan State Fair. This would seem to be a very good record. We will be pleased to receive reports of exhibits and premiums at Fairs, for publication. Also, if photographs of exhibits have been taken, we would like to have them for use in the American Bee Journal.

Bee-Stings a Cure for Rheumatism.—We have received the following from L. C. Medkiff, of New Jersey, which appeared in a Philadelphia newspaper recently, reported by an out-of-town correspondent:

> J. H. Mosteller, a large bee-keeper of this section, is being besieged by numerous persons for the use of his bees for the cure of rheumatism.
>
> Councilman Howard Buchanan was the first to try the new remedy, and the results were so satisfactory that a number of other persons have followed suit.
>
> John Anthony has been given such great relief by being stung that he has dispensed with his crutches.
>
> Lewis Deegan, another convert, has been given great relief.
>
> A prominent business man of Pottstown, who has suffered for years, was stung eight times by Pratt's golden clover bees, which are the kind exclusively used for the rheumatic cure.
>
> Mr. Mosteller says he will now begin to charge a fee for his bees' stings, the same as regular doctors do for their services. He says it will be more profitable than producing honey.

Of course, to the older bee-keepers the above paragraphs do not convey anything new or startling. It has been known for years that in certain cases persons who have been afflicted with rheumatism were helped by being stung by bees. We have never heard of any one who was permanently cured by a dose or two of bee-stings, however. There is a remedy used by the medical fraternity which is made of the drops of liquid that accompany bee-stings. It is prescribed for rheumatic troubles. We believe it is called "Apis Mellif." It is made by drug manufacturers who buy bees for the purpose of extracting the stings in order to get the liquid referred to. Sometimes certain drug manufacturers give an order to a bee-keeper for a large number of bee-stings each year to be extracted by the bee-keeper himself, and sent to the manufacturers.

It perhaps is something of a joke to say that the stings of a certain kind of bees are more likely to effect a cure of rheumatism than stings from any other bees. It is more than likely that the effect would be the same, no matter from what variety of honey-bees the stings were received.

If it should be clearly demonstrated that bee-stings are a reliable cure for rheumatism, the remedy can be obtained very easily and cheaply. As to charging a fee for bee-stings, and thus make more than by producing honey—well, that may be an open question. Of course, it may possibly be true during a very poor honey season, or with but 1 or 2 colonies of bees.

Mr. P. J. Doll, of John Doll & Son, proprietors of the Minnesota Bee-Keepers' Supply Co., of Minneapolis, Minn., called at this office last week. His firm is planning an increase and improvement in their equipment and facilities for turning out bee-supplies. They have made wonderful progress during the past few years, and will soon be able to class themselves with the larger concerns in the business. In fact, their success so far has been phenomenal.

The Bee and Honey Exhibit at the Interstate Fair, held at Sioux City, Iowa, Sept. 10 to 15, is reported to be the finest ever held in the West. There were about 1½ tons of honey on exhibition, and although not large the exhibit was complete in every way. Mr. R. A. Morgan, of Vermillion. S. Dak., was the superintendent. We expect soon to publish a photograph of the exhibit with a complete detailed description.

Wiring Frames.—Dr. G. Bohrer sends the following correction:

> "My method of wiring frames is described and illustrated on page 770. But instead of saying that the upper and lower wires are 1½ inches from the bottom and top bars, it says ½ inch."

Contributed Articles

Bee-Keeping vs. Other Rural Pursuits

BY G. M. DOOLITTLE

Picking up a farming paper lately, I ran across an article which set me to thinking along a little different line from which I usually write for the bee-papers. And as I thought, I said to myself, "Why would it not be a good idea to write out those thoughts for the American Bee Journal?" The result was this:

A part of what I found reads as follows: "If bees are handled rightly, there is a very big profit in them in comparison to other stock on the farm." That sounds very much as we used to talk a third of a century ago, when honey brought readily from 25 to 30 cents a pound. And because some of us would talk that way, a few who did not like such talk for fear of lowering the price of honey, told us that we were hired by the bee-papers so to talk that their subscription list might be boomed; but, if we had any sense at all, we would stop that kind of boomerang, as it would cause an over-production of honey, and the result would be the ruination of our business. And so we stopped, but not because there was an over-production of honey, for there can be no over-production of honey as long as millions of mouths are "watering" for the same without being able to bring the honey in contact with their mouths, for some reason which it seems impossible for the apiarists of the world to solve.

If it were possible for these "watering mouths" to consume our product, the shortage of supply would be twice the amount now produced, for there is not one pound at present produced to where 3 pounds would be consumed were the masses as free to eat all the honey they desired, as they are to eat meat, bread, butter, etc. And it seems to me that they would thus consume, if our product could be rightly gotten before them.

But now my thoughts turn, and I want to look a moment at the profit in bee-keeping as compared with other kinds of farming. There are scores and hundreds of farmers who are worth from $50,000 to $500,000, say nothing about some of the land magnates who control millions of acres of our land with an income from it of hundreds of thousands of dollars a year; but have we a single bee-keeper in the United States who has accumulated even the lowest of the figures given, from his bees? If we have such an one, it has never so appeared before the world. The most known to have been accumulated by any one from the apiary was $22,000, which, it was said, that pioneer in bee-keeping, Adam Grimm, was worth at his death. No! *No!!* there is no "big profit" in the bee-business. But when it comes to a fascinating, health-giving, and enjoyable pursuit, which will give any energetic man or woman a comfortable living, our pursuit need take no back seat for anything in the world.

At this moment my eyes chanced to fall upon the following in one of the bee-papers which I picked up while meditating, and as the same is somewhat in harmony with my thoughts at this time, I will give that, and my thoughts thereon:

"If you expect to make a success of the business, you *must have a real love for it*. If you don't think enough of your bees to take and *read* a bee-paper, and read one or more of the good text-books that are published on bees, and then put into practise what you read, the sooner you get out of the business, the better off you will be"—all of which I suppose was intended to be included by the writer above quoted in the words, "If bees are handled rightly." This is just the way I have written and talked for years, and I believe every word of it, for unless such love is at the bottom of the whole thing, bee-keeping can not become a "fascinating, health-giving, and enjoyable pursuit," without which there is no success.

But suppose a man or woman has no such love for bee-keeping, and so takes the advice given, and "gets out," so as to be better off. Where is such a person going, and what business is he going into to make a success? "To one which he loves," is the answer usually given. But thousands upon thousands do not *love* any calling in life. What is to be done with them? Will they not make as good bee-keepers as they will anything else?

Further on this writer tells me that "bee-keepers are born, and not made." Well, if this is so, what is the use of giving any instruction to any except those who are "born" bee-keepers? Why was he writing about reading, posting up, cultivating a love for our pursuit, etc., if *all* bee-keepers are always "born" instead of made or cultivated?

I take the ground that if any person will only put forth the energy necessary to make a success of any calling in life, that person will learn to *love* that calling, whatever it may be. I believe it impossible to put forth a true, manly effort on anything, without learning to live the thing the effort is expended upon; and loving the same will cause a greater effort to be put upon it, thus giving more love, and so on till the thing is an assured success.

The trouble is that we have so many half-hearted people amongst us, and those who seem to think that the "world owes them a living" anyhow. They start at something in a don't-care sort of way, and when success does not crown their half-hearted efforts, they conclude that they have mistaken their calling, or were not "born" for such a pursuit, so change to something else which gives no better results for their half-hearted service. Then they change again, and keep changing, till at the end of life the whole thing has been a miserable failure.

My advice is to *choose* some calling in life, and then put forth enough of the *right kind of effort* to cause a love for the calling, when nineteen out of every twenty will succeed. And if you choose bee-keeping, the same will be no exception to the rule.

Borodino, N. Y.

Queens Entering the Wrong Hive

BY DR. G. BOHRER

Dr. Miller and Mr. Root recently discussed the above question in Gleanings, and refer to language used on former occasions in treating the same subject. Without quoting the language of either, I will state at once that, as far as my observation extends concerning young, as well as old, queens entering other than the hive to which they of right belong, and being accepted or rejected by the inmates, is a matter that does not seem to be governed by any fixed rule. That some queens are accepted by strange bees on their return from their bridal trip, whether the hive be occupied by an old, middle-aged or a young queen, is a fact; and that a fertile and laying queen at the head of a colony has been accepted, and the occupant superseded by her, I know to be true.

In 1869 (I think it was), I purchased a fine queen from Mr. Langstroth, and reared a few queens from her that season. I put her into winter quarters with one of my strongest colonies, and wintered them in the cellar. In April following, after they had been returned to the summer stand, I passed the hive one day and found my fine queen lying dead on the alighting-board of the hive. On opening the hive I found black bees and a black queen on perfect terms of peace with the Italians.

Upon enquiring of a neighbor, I learned that a weak and starved-out colony of his black bees had deserted their hive on the day previous to the discovery of the loss of my fine queen. The black queen was, of course, not burdened with eggs, while the Italian queen she destroyed was laying eggs quite freely. The bees in this case left to the queen the matter as to which should head the colony. The Italian queen in this case was reared the year before, so that she was not any older than the black queen, and possibly not as old, as I do not know just when the latter was reared. Her being lighter and more active than the Italian queen, on account of not being burdened with eggs, was in all probability the true cause of her ability to destroy the Italian queen.

As to why the Italian colony permitted the black colony to enter their hive on terms of peace is a matter that I can not account for, farther than to say that in this case it actually occurred, and that I regard it as a real occurrence, and not in strict harmony with the law that governs the honey-bees.

Some seasons I have had bees accept queens that had just emerged from their cells, and last year I could not get them to accept a virgin queen at all. Why this difference in the willingness of bees to accept a virgin queen as soon as hatched, one season, and flatly refusing to do so some other season, is an unsolved problem; or, at any rate, no one has yet pointed out the true reason as to why such difference in the temper of bees is made manifest.

One time, when I was in Mr. Langstroth's apiary at Oxford, Ohio, an Italian queen emerged from a cell just at the moment he opened the hive to see if the queen had come out, as he was expecting her to emerge at any time. He removed her at once, placing her upon a comb covered with strange bees. The hive he placed her in was closed immediately, and in about half an hour we looked to see how she had been received, and found she was moving about leisurely among the bees. This, he told me, he often did when he had such a place for a young queen, and I judged it to be a fact that bees would invariably accept queens just hatched, from any colony. But experience has taught me that there are many exceptions to this rule, if a rule we may properly term it. I am of the opinion that when there is a free flow of honey, bees are more liable to hurt a strange queen than they are when there is little or no honey to be collected.

Lyons, Kans.

* * *

Methods of Queen-Introduction

BY DR. J. H. HEAGY

After some years of experience in handling the honey-bee—35, to be more accurate—I have concluded that the scent factor is the prime factor in introducing new queens in established colonies, rendered queenless by accident, or purposely, so as to enable the apiarist to inject new blood and new life in his apiary through the introduction of thoroughbred queens.

The common method—the method advocated by queen-breeders universally—is to render the colony queenless, then insert in the hive the cage containing the new queen and a few bees that accompany her, preferably between the middle frames and midway of the frames, there leaving it until the bees eat a tunnel through the candy and thus liberate the queen. To those who have tried this plan, it is unnecessary to say that often—too often—the results are either immediate death to the queen, or, if not at once, the bees may accept her for a few days, or until she commences to lay, and then kill her and rear a queen to suit themselves. This occurs so often, indeed, that a great many apiarists frequently blame the queen-breeder for sending a queen badly mated, or one mated with an inferior drone, when the real truth of the matter is this, that the bees accepted the introduced queen for a few days only, and, as soon as laying commenced, they balled her, and smothered her to death, or may, indeed, have at once stung her to death and carried her out of the hive. So that the new queen is one of their own rearing, and not the introduced queen at all.

This is especially liable to occur in apiaries where the bees are not looked after very carefully, or in the yard of the novice, even the old, experienced apiarist may be fooled in the same manner and "cuss" the breeder for sending inferior stock, when the above has been the reason for poor stock "showing up" after he has introduced a superior queen.

Now, my manner of introduction does away with all this risk, because in following my rules for introduction you remove the cause of the killing, and the cause is the extraneous scent on bees and cage you employed in the introduction. The queen may have been in the cage over a queenless colony for some time prior to mailing to you, and acquired the scent of the bees in that way; or the cage may have had several queens in it at various times, and even been in two or more colonies, and so have acquired the scent of some two or three, or several colonies. When introduced, their scents act on the nervous and enraged bees much as a red rag acts on a mad bull. The bees, rendered fierce by the removal of their gentle mother, are ready, and even hunting, for trouble, and the moment the cage is thrust within the hive, they fall on it in their blind, unreasoning rage and would tear it to pieces if able to do so. They at once commence to tunnel through the candy to liberate the queen. The moment they penetrate to her they at once kill the enclosed bees, drive her out into the hive, ball and smother her at once, or, perhaps, sting her to death!

The method of introduction which I have evolved after losing some very fine queens, is this: On receipt of a queen from the mail, prepare a fine camel's-hair brush — one such as is made in a quill-holder. Cut it to a fine point and lay aside until ready to use it. Also have warm water handy. Remove the queen, catch her by the wings, and after wetting the camel's-hair brush, gently brush her all over with it, underside as well as back, wings, thorax, and every available portion of her. So soon as you have completed the "royal bath," place the queen in a new cage—one that has never held bees before—indeed, one that has never been near a colony is the only one to employ.

After placing the queen in the new cage, go to the queenless colony to which you wish to introduce her, catch a dozen young bees just hatched out, place these in the cage along with the queen, and insert the cage and contained bees in the hive, preferably between the middle frames, and about half way down the comb. Push the frames together to hold the cage if the bees cluster on it; shut the hive, and don't disturb it for 5 days.

At your next visit to the colony, you will find the queen alive and laying for all she is worth, contented, and the bees well satisfied with her.

I have tried the above plan many times, and always successfully. Indeed, I have treated a queen as above, going all over her with the warm water, and at once liberate her in a colony that was mostly old bees; they accepted her, and she is to-day the head of that same colony. If old bees will accept a queen, young bees will also do so, for it is the old bees that always make the trouble.

Black Lick, Pa.

* * *

Queen-Cell Cups from Drone-Comb

BY W. C. GATHRIGHT

I wish to endorse the plan of getting queen-cell cups from drone-comb, as given by L. B. Smith, on page 701. I have practised this plan with perfect success. Last year I changed to the plan of using strips of worker-comb, destroying larvæ in 2 cells, and leaving one, so as to get room to cut the cells apart. The main reason for changing to this plan was to avoid having to transfer larvæ, but this season finds me using the drone-cell cups again. The bees seem to accept them more promptly. Often with the strips of worker-comb the bees would only start 2 or 3 cells out of 20 larvæ given them, but with the drone-cells I often have every cell built out.

But what prompted me to write this was to find out if Mr. Smith uses a queenless colony to get them started. I always do, but to get a colony queenless I do not go to a colony and remove its queen. I take the super off my cell-building colony, bees and all, with the excluder nailed to the bottom, and set on a bottom-board. I do this in the evening, and by the next morning they are ready to build cells. In about 24 hours this super is placed back on the hive from which it was taken, and the cells are finished over the colony having a laying queen below.

Another little item I have found very essential, is that after the drone-cells are waxed to the cell-bar, and the cells cut back about half their length, I place them in a queenless colony *without* larvæ for at least 2 hours, and at the end of that time I find them all worked over, the edges smoothed and the bottoms polished until they fairly shine. When in this condition, the bees will accept almost every cell, and start feeding the larvæ at once. It is useless to use comb that has been out of the hive even a short time, for there is an accumulation of fine dust in the bottom of the cells, and the bees will not have them unless they are clean.

It has also been my experience that to prime the cell-cups with royal jelly is of no use. The bees always remove it, though for what cause I never could understand.

Fillmore, Calif., Aug. 27.

Southern Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Bees that Mourn Loss of Queen

There seem to be two classes of bees in a bee-hive that pay little or no attention to the removal of the queen; that is, very young bees and old field-bees.

Bees under 4 days old will hardly take notice of a queen being removed. It seems to be the middle-aged or nurse bees that mourn the loss of the queen most. I believe it is a fact that bees that mourn the loss of their queen most are, as a rule, the best cell-builders. I have had some colonies of pure Italians that you could not detect from the outside appearance that they were queenless. Such colonies *invariably* prove poor cell-builders.

Queens Mating More Than Once.

The writer believes that it is not a very unusual thing for a young queen to meet the drone, or male bee, two or three times before becoming impregnated. I have just had a case of that kind. On July 13, I saw a young queen make the third trip from a nucleus, the last time showing signs of having met the drone. On the 16th, I opened this nucleus to cage the queen to take to an out-yard, but found neither queen nor eggs. So I decided the bees had destroyed her, and was about giving them another cell when I saw what I took to be a queen alight at the entrance of the nucleus, and on investigating I found it to be the queen, and she showed plain evidence of having met the drone again. I have witnessed the same thing once or twice before.

Bountiful Rains in Texas.

We have at last had bountiful rains all over this State. Bee-keepers generally have been expecting a good honey-flow from sumac and fall flowers. The sumac blooms in August. The worst trouble is in getting the bees strong enough to take advantage of this flow, which is less than 3 weeks off from the time when bees are in a weak condition.

Tolerating Old Queens.

I can't understand why so many bee-keepers pay so little attention to the kind of queens that are at the head of their colonies—I mean their age. At least half the bee-keepers of my acquaintance pay no attention to the age of their queens, just allowing the bees to supersede them when they please. If I didn't know how to rear queens by the latest methods, I would remove those old queens and allow the bees to rear a queen to their own liking, believing that a young queen, poorly reared, is better than an old one.

Praising Their Own Hobbies.

I could never understand why some otherwise good writers seldom write except to praise their sectional brood-chamber hives, and their system of management. A bee-keeping neighbor of mine, not long since, told me he always skipped a certain man's department in one of the monthly bee-papers because, he said, "I don't expect to find anything except stuff of that kind." I believe I more than half-way agree with him. If we *must* have such as that, would it not be better to have it on the advertising pages rather than in the reading columns?

Why Such Difference in Colonies?

Here is something I should like to get Doolittle, Dr. Miller, or Stachelhausen to take hold of: Say hive No. 24 has a good, strong colony of bees in it. They always fly strong, and are strong in numbers, and if I want a frame of honey for any purpose, I always find it in this colony, if it is to be had in the yard; and yet the queen of this colony seldom has brood in more than 5 Langstroth frames.

Here is No. 30 standing not a rod away, with the queen occupying double the number of combs with brood, and yet they are little if any stronger in working power than No. 24; and if the season turns out poor, I have to call on No. 24 to supply No. 30 with honey for winter, yet No. 30 always flies strong, and seems to work fully as hard as No. 24, but doesn't seem to accumulate in either stores or working force as they should. Who has not noticed this?

L. B. Smith.

Rescue, Tex.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Can't Build Comb After July.

Those North Carolina bees that can't build comb after the middle of July, must be related to that people (name beginning with D) who can't see after 4 o'clock. Page 622.

Phlox Drummondii a Favorite.

No, Sister Wilson, I never got around to investigate the color of poppy pollen. Not surprised to hear that it is black, as many of them have the whole center of the flower a mass of black filaments. My favorite flower is the Phlox Drummondii—largely because it smiles on me, while the rose, which is in higher repute, keeps most of its smiles for some other fellow. My young phloxes winter over in the open ground, and give me early bloom—a favor which the other fellow never seems to get, and does not even expect. The tubes of the phlox are ever so much too long for bees. They are also very slender, and got up, I take it, to be cross-fertilized by the long tongues of butterflies, and especially by the sphinxes. But only a few days after I wrote of the apiarian hopelessness of my flower, I saw for the first time a bee working on Phlox Drummondii. Should be kept in mind that phloxes left to take care of themselves for a number of years are abominations—only a few dingy colors, and all the brilliant ones missing. Page 617.

Ventilation Between Brood-Chamber and Super.

Interesting to see that the Dadants found that ventilation space between brood-chamber and super, when the hives were also raised 2 inches at the bottom, made too much of the good thing of ventilation except in hot summers. According to Mr. D., a consistently hotter climate might always find it right, and a cooler climate might always find it wrong. Sounds sensible. Page 703.

Notes on Wintering Bees.

The wintering article of Grant Stanley has several quite catchy sayings. Sure to be scant stores below if sections are left on till frost. 'Spects that depends upon the bees, as to the "cut of their jib;" but I fear it is true, too, many times for one who practises that way to feel comfortable about it. "Equally good for wintering"—the late-gathered stores. How happy would I be if that was the truth, or even somewhere near the truth! Bees breed in—say April—according to the amount of stores in sight. Pretty v[illegible]ly that is correct in a general way; and yet of 2 colonies, each with an equal plenty, one may be much more saving than the other. At least that is the way it seems to me. Page 687.

GOLDEN WEDDINGS OF BEE-KEEPERS.

And so Edwin France, who is 82, celebrates his golden wedding. Hope and good cheer, comrade! We'll even refrain from adopting the scare sentiment Longfellow passed down to us (We who are about to die salute thee). We may be about to die; but let's quit bragging about it, and hustle in the other direction a little. And how long been wedded to the bees, comrade? Wouldn't it be nice for us to celebrate golden weddings when we had been 50 years keeping bees.

At getting up a 50th wedding, a 20th wedding, and a first wedding, all in one day, our well-known old comrade, William Stolley, seems to "take the cake." Hope he was able to take a liberal amount of each of the 3 wedding cakes. Page 686.

SOMETHING OF A SWARMER.

If J. L. Patterson, of Georgia, has a log hive that sends out 8 swarms each year (2 sets of 4 each), he should have a belt, or a pennant, or something. Or we might choose him President of a Swarm-Nuisance Society. Page 686.

CIVILIZATION'S OFFENSES—CHESTNUT BLOOM.

Doolittle's excellent article on page 685, is rather devoted to the correction of errors, and therefore should be a little shy of errors itself. I put in an objection to the clause, "our forests are fast becoming obliterated by the advance of *civilization*." Say, rather, our forests are fast becoming obliterated by the criminal heedlessness both of individuals and of the State governments. Might as well credit the perfume of the Chicago stock-yards to civilization. Civilization makes great changes; and concurrently with the changes heedlessness and inborn barbarism pollute rivers, and make continual bad smells, and blacken all the face of Nature with soot, and exterminate the song-birds, and introduce foreign weeds and destroying insects, and so on; getting in so long a list of offenses against civilization that we doubt sometimes whether humanity has realized a gain or suffered a loss in the process.

I see also he names the chestnut as one of the kinds of bloom that never yield nectar. Perhaps that was a sort of slip of the pen. Here bees often roar very loudly on the chestnut bloom. And this even happens when basswood takes a notion to bloom at the same time. Also, perfume seems to be Nature's advertisement, saying, "Come, and get some honey." And those trees which really never yield nectar, I have never noticed sending out any perfume worth mentioning. But chestnut in bloom sends out a powerful perfume. Some might vote it not so very agreeable, but I guess they would hardly deny that it is entitled to the name. I can imagine that some might be greatly pleased with it.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

A Colorado Sister's Experiences

DEAR MISS WILSON:—I send by this mail some of my bee-keeping photographs, in response to the request on page 597. I send several, so that you may choose the ones you consider best for engraving.

I am sorry to read that you are having so poor a yield of honey this year, and hope that by November the second crop of clover may have given you and your bees more than you expected. We went through the same experience here last year with alfalfa, but I am glad to say that this year the honey crop is a very fine one.

I was much amused, on opening my last American Bee Journal, to read the letter signed "X. Y. Z.," as I think I am the culprit who mixed syrup in a bread-making machine. When spring came and more feeding was required, I did it again and again. Nothing could mix it better. Thank you for defending me. Should chance ever bring you in our direction, I should be only too happy to have you "eat bread" with us, and I don't fear that "there is death in the pot" for man *or* bee, when my sisters or I have cleansed it.

Last fall, a more experienced bee-keeper warned me to look well to my colonies, as there would be a heavy loss of bees all through Colorado in the winter. That this warning was justified, the last bulletin of the National Bee-Keepers' Association proves: "Colorado.—Light crop; some lost bees heavily in winter." And I wrote to you of my efforts to save mine.

Now, perhaps "X. Y. Z." will let me appeal to the homely old proverb, "The proof of the pudding [also of the syrup] is in the eating." That I did not, through lack of "common-sense," poison the bees with fermented syrup, is, I think, proved by the fact that, as I wrote to you in June (page 109), I wintered without the loss of a single colony, and only 4 were really weak ones.

My colonies, spring-fed with the same fearsome mixture, are now as strong as the heart of a bee-keeper could wish, and are filling supers almost faster than I can handle them.

I will, therefore, only wish that "X. Y. Z." may always winter his bees as well as I did, and have as successful a honey-season each year.

I do, however, agree with him in thinking it unwise to start fermentation in the hives, and I am very careful indeed that my bees never have access to the cider-press. COLORADO.

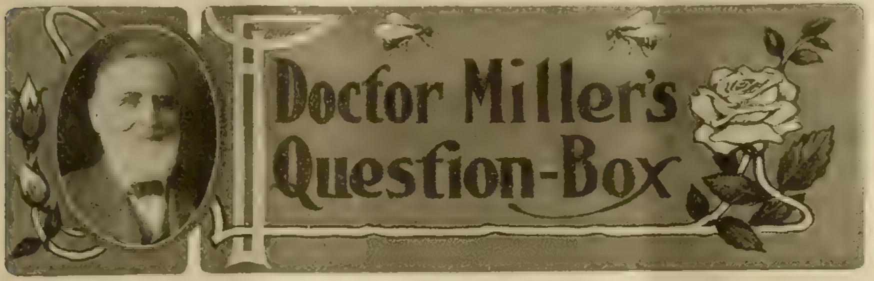
August 17.

There is a second crop of red clover, but, properly speaking, there is no second crop of white clover. Being grazed down, it keeps coming up continuously, but, although blooming often late in the season, the later blooms seem of little use as far as nectar is concerned. Some years the white clover yield continues until in August

APIARY OF MISS "COLORADO," NEAR DELTA, COLO., 5400 FEET ABOVE SEA-LEVEL.

and sometimes it stops early in July. When it yields nothing in June or July, as was the case the present season, there is no hope for anything afterward. But you may be gratified to know that for all that, there is a good promise that our bees will fill up for winter, and perhaps give us a stock of extra combs of sealed honey for spring use. About Aug. 20 the bees began to sit up and take notice that there was something for them to do, and for a few days during the terrifically hot weather they seemed to have all they could do on cucumbers, heartsease, etc., and although the nights have turned cool, they still seem to be working.

Please tell us how you prevent your bees having access to the cider-press.



Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Dead Brood—Uniting Bees

1. I send some dead brood. What is the disease? and what is the best treatment for it?

2. I have read so many times about putting a nucleus or colony by another hive, or doubling up, as on page 485. Won't the old field-bees go back to the old stand? Missouri.

Answers.—1. I wouldn't be certain there's any disease in the case—looks more like a case of chilled or starved brood. But I'm not an expert in bee-diseases, and all who have any fear of serious disease should send sample to Mr. N. E. France, General Manager of the National Bee-Keepers' Association, Platteville, Wis. Those who are not members of the Association should send along a dollar to become members.

2. Yes, when bees are moved, unless some steps be taken to prevent it, the field-bees will upon their first visit to the fields return to the old stand. Sometimes that is desired, and sometimes not. On page 485, "Bloomfield" says: "Move the nuclei thus started to other locations........and confine the bees for 3 days." The 3 days' confinement helps in two directions: During that time a number of bees will emerge from their cells, and also the old bees will give up their old attachment, and when the entrance is opened will take their bearings afresh and adhere to the new location. Afterward, when he moves a nucleus beside the swarm he calls a "hummer," he says nothing about confining the bees of the nucleus, and of course the field-bees of the nucleus will go back to the old location, and probably "beg" their way into the colony nearest that old stand.

* * *

Winter Packing Boxes—Sugar Syrup for Winter Stores

1. I am building packing boxes of 1 inch lumber large enough to hold 2 colonies. I have allowed about a 5-inch space for packing on top of the hives and 3 inches on sides and ends. The hives will be placed close together. The entrance for each hive in the packing box is about 5x½. If the bees are put away Nov. 1, with 20 pounds of sugar-syrup stores, would you expect them to winter in good shape?

2. If I mix 15 pounds of sugar with 15 pounds of water and feed the mixture to a colony of good, average strength about Sept. 10, how much actual food would there be stored and capped, allowing for brood-rearing at that time, the syrup to be fed in about three days' time? Ontario.

Answers.—1. Packed as you describe, and especially with two hives so close together, it ought not to take a heavy amount of winter stores; but if you mean that 20 pounds of sugar syrup is their entire dependence for winter, then you're running too much risk. Some colonies will use no more than 20, while others will use 30. and the safe plan is to give all 30. Very likely, however, you mean that you will give the syrup in addition to some 10 pounds of honey scattered through the frames, in which case you are all right. Indeed, for a colony wintered outdoors there would be no harm in allowing 40 pounds. It's not a bad thing to have some of the winter stores left still in the hive when the harvest begins, as it saves just so much filling up in the brood-chamber before the honey goes aloft. A full pantry in spring favors rapid building up for the harvest. Your entrances are all right if you don't let them get clogged.

2. If you feed sugar and water, half-and-half, as late as Sept. 10 (and your letter didn't reach me till after that date), you'll stand a fair chance of having every colony thus fed die of diarrhea. For unless the weather is unusually warm the bees will not be able to get any important amount of such syrup reduced to the consistency of honey. The safer thing will be to feed syrup about as strong as honey, say 5 pounds of sugar to 2 pounds of water.

It is probably not out of the way to say that 5 pounds of sugar will make the equivalent of 7 pounds of honey, whatever the amount of water used, provided there is no waste for brood-rearing. wax-building, or any other purpose. The amount used for brood-rearing will vary; some colonies are done feeding brood before Sept. 10, and some are not; but brood-rearing is not very heavy in any case so late; and it may not be out of the way to say that 5 pounds of sugar will result in 6 pounds of sealed stores. So your 15 pounds of sugar, fed rapidly as you say, ought to make something like 18 pounds of sealed stores—if, *if* the bees ripen it as it should be ripened. But that is hardly to be expected, and the result will be very likely something nearer 30 pounds of thin, unsealed stores.

* * *

Queen-Rearing Experience

I have this season been trying the Doolittle plan for queen-rearing, but was not very successful. I grafted 5 lots of cells in June and July, from 9 to 15 each time, but never more than 6 were accepted. The first time was in the upper story of a very strong colony; the second, 10 days later over the same colony, when none were accepted; the others were in queenless colonies. The queen having been removed about an hour before, of those that were accepted, except in one instance, more than half failed to emerge, being dead in the cell upon examination. Some of these were fully developed, others had just only reached the pupa stage. I took them off on the 10th day and handled them very carefully; in most cases more or less comb had been built around the cells.

1. Can you account for the non-acceptance and failure to emerge?

2. I made the cells about ¾ inch to ⅞ inch deep. Were they too deep?

3. Did I put in the cells too soon after taking the queens away?

4. In 3 of the colonies a queen was fertilized in the upper story; one was lost at extracting time; but the others are all right now. I am thinking of letting them remain as they are for the winter. I winter bees on the summer stands; one has an entrance in the upper story, and the other has not since I extracted. Do you think it will answer to winter them that way? The one with an entrance has a queen reared in 1905; the other is a year older, and is one of my breeding queens. British Columbia.

Answers.—Please allow me in this case to answer your first 3 questions without taking them in order. If you will examine queen-cells that contain larvæ only 2 or 3 days old, and of course you used larvæ as young as this, you will find that the cells are not half as deep as ¾ or ⅞ inch; so your cells were unnecessarily deep. When a queen is removed from a colony, the colony is sometimes not aware of its queenlessness for a good many hours, and when you gave cells to a colony whose queen had been present an hour before, it was practically not a queenless colony, and cleared out some or all of the cells before discovering its queenlessness. In the case of the cells in an upper story, with a laying queen below, the age and vigor of the queen would make a difference, the cells being more kindly treated if the queen was failing than if she was young and in full vigor. After all, you did not do so very badly if you got as many as 6 accepted out of 9 to 15, first time trying.

I don't know how to account for as many as half the young queens dying in the cells, unless it be that they were chilled. They would hardly be chilled in the full colonies in which they were started; but you say you cut out the cells the 10th day, and I suppose you put them in nuclei then, and if not centrally located with a pretty good force of bees, a cool night might have been accountable for the mischief.

4. They may winter all right; although there is a little danger that the bees may conclude that one queen is enough.

* * *

No Brood or Eggs

What is the reason my bees haven't a single mite of brood, nor any sealed brood? I have overhauled 18 colonies out of 20, and find no brood nor eggs. Maine.

Answer.—Your letter is dated Sept 10, and as no brood of any kind was to be found then, that means that the queens stopped laying on or before Aug. 20. The easiest answer would be to say that the colonies were queenless. But under ordinary circumstances it is hardly likely that 18 of the 20 colonies had become queenless, and as you say nothing about the queens it may be taken for granted that you supposed queens were present. In the absence of fuller information I can only guess, and I should guess that in August there was such a severe dearth that the bees concluded the season was over, and so gave up rearing brood. Even when the queen has not yet ceased to lay, the workers sometimes cease to give the eggs proper attention, and no brood is reared from them. If there was good yield of honey through August, then [illegible] know what the trouble was.

Reports and Experiences

Good Prospects for Fall Crop

Bees are doing well on fall flowers. The asters are just coming into bloom. The prospect is good for a crop of honey in the valley of the Mississippi. Thos. M. Cherry.
Quincy, Ill., Sept. 16.

Very Poor Honey Harvest

What will our harvest be? I count 430 pounds of comb honey (none extracted) up to date, from 155 colonies of bees (100 spring count). I will have to get a whole lot of honey during September and October if the bees are to pay for expenses, not to speak of the labor put in. From what I learn, the honey crop this season is from nothing to very light in this part of the State. It is about time the price of honey should rise.
Sebastian Iselin.
Stockton, Calif., Sept. 11.

Satisfactory Honey Crop

My honey crop was very satisfactory this year—2700 pounds from 35 colonies.
Cropper, Ky., Sept. 11. O. B. Montfort.

Fair Season—Reliable as the Tides

The season has been a fair one, some colonies producing as high as 128 pounds of comb honey. Bees have plenty of honey for their winter's repose, and no frost yet.

The "Old Reliable" is as reliable as the tides. I seldom look for it in vain on Thursday evening or Friday morning. It is also like well-kept honey—improves with age.
Nisbet, Pa., Sept. 14. Grant Stanley.

Non-Swarming Bees and Methods

I am particularly interested, like other bee-keepers, in non-swarming methods, hives, and races of bees. The letters of Mr. McGuire, of North Carolina, and Mr. Whitcomb, of Oregon, describing a non-swarming race of bees, attracted my special attention. With such a strain of bees in my possession I can easily produce 100 pounds of comb honey per colony in certain localities. Of course, I don't care for the Davenport secret.

We are told by the Bee-Keepers' Review to import Italian queens from the South early in the spring, and that the colony which has the introduced queen will not swarm that season. Non-swarming, Southern-bred German queens can be gotten much cheaper, and to my mind they are the best honey-producers.

The Root strain of Italians and the Moore strain are spoken of highly up here, but queens from one Northern queen-breeder, and one from the Sunny South, produced bees exceedingly quick-tempered. My private opinion is that they had some of the blood of the Syrians or Cyprians in them.

My thanks are due to Mr. Erickson for his timely letter describing his methods of getting bees into the supers.

Will some one tell me why bees swarm in the raspberry regions of Northern Michigan? Is it due to the fact that they are hybrids, or is it the locality? Some say pure Italians and blacks will not swarm so much. I shall be glad to try the Aspinwall non-swarming hive on the strain of bees we have here, when it is ready for sale. Geo. J. Moloney.
Wolverine, Mich., Aug. 8.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

CONVENTION NOTICES.

The Southern Bee-Keepers' Association will meet in Atlanta, Ga., Oct. 11 and 12, 1906, during the State Fair, on the Fair Grounds. All interested are invited to attend.
Judson Heard, Sec. and Treas.
J. J. Wilder, Pres.

Illinois and Wisconsin.—The annual meeting of the Northern Illinois and Southern Wisconsin Bee-Keepers' Association will be held at the Court House, in Rockford, Ill., on Tuesday, Oct. 16, 1906. The meeting begins at 9 a.m. and lasts all day. All interested are invited to attend. B. Kennedy, Sec.
Cherry Valley, Ill.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.
Flint, Mich. W. Z. Hutchinson, Sec.

Missouri.—The annual meeting of the Missouri State Bee-Keepers' Association will be held at the Circuit Court Room at Marshall, Mo., Oct. 2 and 3, 1906. All bee-keepers are invited to attend and to join the Association. Excellent hotel accommodations can be obtained at reasonable rates, or board and lodging can be secured at 50 or 75 cents per day at private boarding houses, for those who will write to Mr. Tribble, asking him to arrange for them. There are over 41,000 bee-keepers in Missouri. Let there be 1000 of them at Marshall, Oct. 2 and 3.
Robert A. Holekamp, *Sec.*
4263 Virginia St., St. Louis, Mo.

Connecticut.—The Connecticut Bee-Keepers' Association will hold its 15th Fall Convention in the State Capitol at Hartford, Friday, Oct. 12, 1906, beginning at 10:30 a.m. An interesting list of topics for discussion has been arranged. All persons interested are cordially invited to attend, as matters of great importance are to be brought before the meeting. Bee-keepers are invited to bring something for the Exhibition Table—anything they may think will be of interest. The Association is not only seeking to promote scientific and practical bee-culture, but is aiming to advance the interests of both producers and consumers of honey by spreading truths of general interest, and correcting false impressions concerning apiculture. Fruit-growers, farmers, horticulturists, and in fact all of us, are debtors to the honey-bee to an extent that would be amazing if there were statistics to show, or if it were possible to measure the value of the service of these little creatures in fertilizing the bloom of the plants and flowers, their work being always beneficial and never injurious. And besides the pollination of blossoms, which is so important to mankind, the golden nectar of the bees is stored in cells of wax so delicately constructed and sealed that man is powerless to counterfeit the exquisite workmanship, and we are furnished with a medicinal, health-restoring, health-preserving, predigested food, which is always pure. It being a mechanical impossibility to cap, or seal, honey in the comb so as to deceive the public, there is no artificial *comb honey* on the market. Members and friends of the Association are kindly urged to send at once to Secretary J. Arthur Smith, box 38, Hartford, lists of bee-keepers in their vicinity. It is very much desired that all bee-keepers in the State give the Association their personal support and influence, that its membership may be materially increased, and thereby its usefulness. The membership fee is but 50 cents, which entitles one to a special discount on bee-supplies.
J. Arthur Smith, Sec.

To Buffalo, N. Y.,
and return, via Nickel Plate Road, at $13.00 for the round-trip, from Chicago, on October 10th, 11th, 12th and 13th. Return limit, October 19th, or by extension of ticket, October 29th. First-class equipment. Individual Club Meals from 35 cents to $1.00, served in Nickel Plate dining-cars; also a la carte. Mid-day Luncheon. 50 cents. City Ticket Office, 107 Adams St., Chicago. 'Phones Central 2057 and 6172.
29—39A2t

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Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8 00	$ .95	$ 5 00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10.00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
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Select Golden Breeders	3.00
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" Carniolan "	3.10
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1 full colony without queen in 8-frame dovetailed hive	6.00

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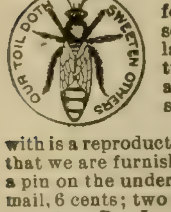

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Honey and ✣Beeswax✣

Chicago, Sept. 8.—The receipts of comb honey are quite large and there is also a good demand for it, so that prices are well maintained at 15@16c for No. 1 to fancy; anything short of these grades is not selling freely and ranges from 1c to 3c per pound less; buckwheat, 12½c; dark grades, 8½10c. Extracted, white, 6½@7½c; amber, 6@7c; dark, 5½@6c. Beeswax, 30c. R. A. Burnett & Co.

Toledo, Aug. 20.—The market on honey has not changed much since our last quotation. Bee-keepers seem to be holding their goods expecting large prices. Fancy white comb brings in a retail way 16@17c; No. 1, 15@16c, with no demand for dark. Extracted white clover, in barrels and cans, brings 6½@7c; but very little has been offered as yet. Beeswax, 26@28c.
Griggs Bros.

Indianapolis, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, Sept. 20.—Comb honey has been arriving quite freely and the demand is quite brisk at this time. Prices seem to have an upward tendency. The outlook is for still higher prices. We would advise parties who have comb honey to ship, to send it in at once and sell it while the demand is on, for September, October and November are big honey months. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber. 12@14c. Fancy white extracted, 8@9c; light amber, 7@8c.

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New York, Aug. 18.—There is a good demand for new crop comb honey, but arrivals are very small as yet, and will continue so for a week or two to come. We quote fancy white at 15c; No. 1 white at 14c; No. 2 white at 12c; it is too early as yet for dark or buckwheat. Extracted is in good demand at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Southern, common average grade, 50@55c per gallon; better grades at 60@65c. Beeswax firm at 30c.
Hildreth & Segelken

Cincinnati, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¾c. Beeswax, 30c.
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Denver, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
The Colo. Honey-Producers' Assn.

Kansas City, Sept. 10.—Receipts of both comb and Extracted honey are light at present and the demand is good. We quote: No. 1 white comb, 24-section cases, $3; No. 2, $2.75. New extracted, 6@6½c. Beeswax, 25c.
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Cincinnati, Sept. 18.—The demand for comb honey is good; fancy and No. 1 selling freely at 15@16c; lower grades not wanted at any price. The market on extracted honey is quiet, as quantities remain unsold from last season. We quote amber at 5½@7c, according to quality. Fancy extracted white clover at 7½@8c. We are paying 29@30c for choice yellow beeswax free from dirt. The Fred W. Muth Co.

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46th Year OCTOBER 4, 1906 Number 40

AMERICAN BEE JOURNAL

Apiary of J. H. McGuffin, of Mart, Tex.
(See page 830)

Wm. H. Root and Apiary, of Carroll, Nebr.
(See page 830)

THIRTY-TWO PAGES

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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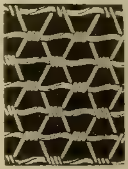

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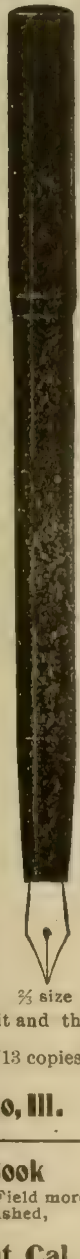
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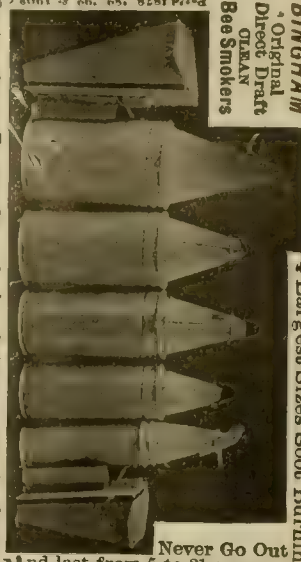

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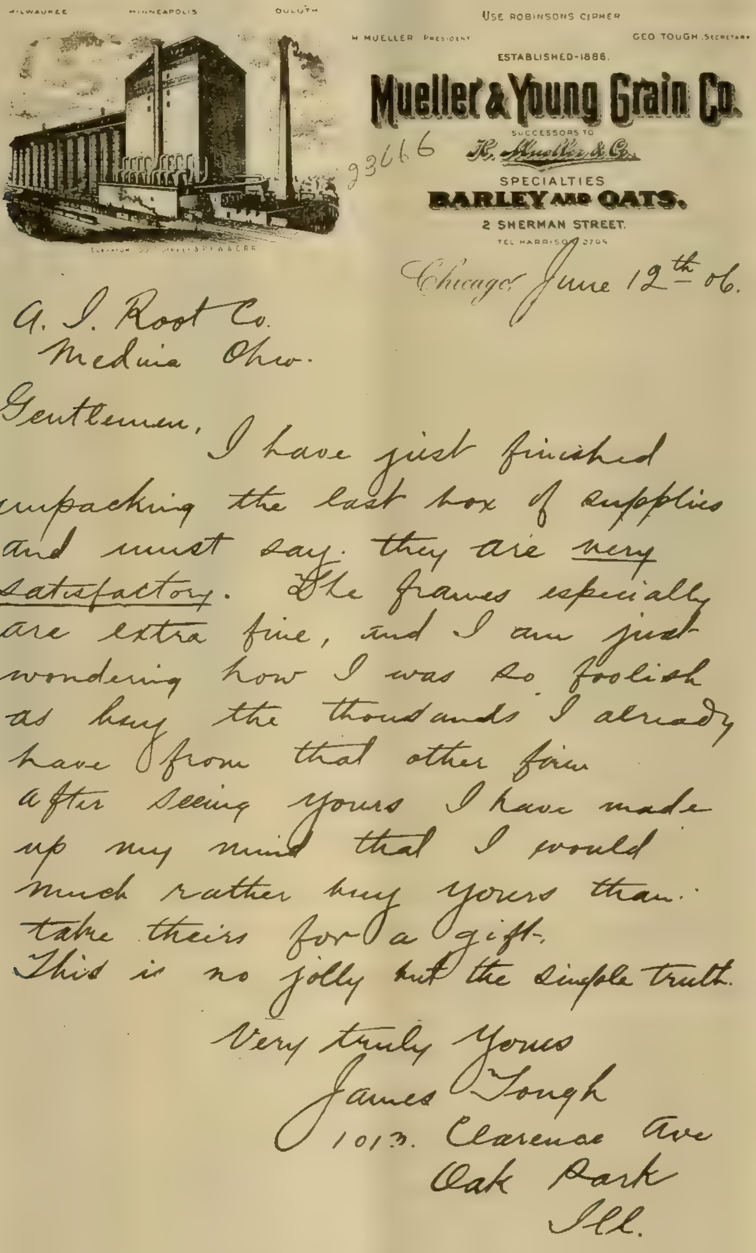

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AMERICAN WEEKLY BEE JOURNAL

LANGSTROTH
CHAS. DADANT

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor — CHICAGO, ILL., OCTOBER 4, 1906 — Vol. XLVI—No. 40

Editorial Notes and Comments

Keeping Queens for a Short Time

It sometimes happens that one may wish to keep a number of queens for a week or more. Generally there will be no trouble in keeping a queen in a shipping-cage a week or so, there being enough candy present for that purpose, if the cage be kept in a cool, dark place with pure air. For a longer time, one would naturally think of giving the cages to a queenless colony, and in some cases that has been successful, but so experienced a man as W. H. Laws says in the Canadian Bee Journal:

> I lost the larger part of 40 queens once caged in the upper story of a queenless hive, the bees selecting a few, which they nursed and fed up to the egg-laying degree, while the others they treated as strangers, tormenting and pulling at them through the screen, where I found them dead a few days later.
>
> The best success I have known in keeping laying queens outside of the nucleus hives from which they were mated, was by placing them on unfinished sections of honey, placing a solid board on one side and a wire-screen on the other, with a little wad of queenless bees to each queen. In this way I have kept them confined in a perfectly healthy condition until the brood from each queen reared in the section was hatching.

◆

Some Heavy Combs of Honey

On page 769, Mr. W. D. Soper reported that he had harvested 93 pounds of honey in 11 combs, and said, "If there is any other bee-keeper who can show a greater weight of honey in 11 combs, I would like to hear from him." One of the Bee Journal family having made a request to that effect, Mr. Soper has kindly furnished these particulars:

> In answer to your inquiry about heavy combs, I will say the size of the frame is 10x12 inches inside. Most of the combs were bulged—about 2 inches thick. The hive is 22 inches inside. It is an old "Michael" hive—a very good one for extracted honey, but poor for comb honey.
>
> W. D. SOPER.

It should here be said that this explanation was not necessary in reality, for all that Mr. Soper wanted to know was whether any one had secured 11 combs of greater weight, no matter what the size or proportion of the combs. It must be confessed, however, that without the additional information given, one is at a loss to know whether there is something unusual about the size of the frame, or whether the combs are of unusual thickness. If, for instance, the combs were 10x18 inches, no greater thickness would be necessary to make 11 combs weigh 93 pounds. In reality, the combs were smaller than those in the Langstroth frame, being 10x12, inside measure, and spaced nearly 2 inches from center to center. No matter, however, what the size of frame or thickness of comb, the question is, Who has secured more than 93 pounds of honey in 11 combs?

◆

Co-operation Among Bee-Keepers

We have received the following from Arthur C. Miller, of Rhode Island, in response to an editorial recently published in the American Bee Journal:

> EDITOR YORK:—The editorial on page 733, bespeaks an imperfect conception of the scope and form of the present co-operative movement among bee-keepers, commonly called the "Independent Movement." Perhaps I may be permitted to give your readers a little light on the subject.
>
> For several years bee-keepers have felt that certain individuals, directly or through papers or corporations controlled by them, have been working against the bee-keepers' best interests. The straws became heavy timber, and the honey-producers proceeded from grumbling to action. Individuals cast about for local sources of supplies, societies tried to buy for their members, individual and associated effort was made to get honest honey-market reports and accurate knowledge as to crops. Unrest spread all over the country until finally at the St. Louis convention, action was taken looking to the formation of a "Honey-Producers' Exchange of America." Before this new body (to be composed solely of honey-producers, and excluding all interested in the manufacture or sale of supplies) could be organized, there sprang into being in Chicago, a "Honey-Producers' League." This latter body was ostensibly for much the same purpose as the Exchange previously referred to. Owing to the fact that among the organizers were representatives of supply firms and trade papers, and men who did not have the confidence of the honey-producers, the League was looked upon with suspicion, and, finally, instead of winning the confidence of the bee-keepers, aroused their anger and hastened action among themselves.
>
> The Editor has called this action "co-operation," but it is not co-operation in the commonly accepted meaning of that term. In some instances local societies acting alone; in others, the county societies of a State acting together, have sought and secured special prices for supplies for their members. The goods may be purchased in nearly any quantity, and are ordered and paid for by the individual. The co-operative part, it will be noted, extends only to securing special prices, not to pooling of funds or any other of the forms of co-operative concerns. It is at once positive in its results, and free from opportunity of internal dissension over financial matters. It possesses immense and growing strength, in that being or becoming a member of one of the modernized societies secures to the individual special discounts and opportunities. So long as he is for and with his fellow members, he can remain in the society and secure the same benefits as the rest, but if he works against them, then his sojourn with them is certain to be decidedly unpleasant, even if he is not expelled; and, if he leaves, he forfeits his right to participate in the various benefits. There is every reason for a bee-keeper to become a member of and work with and for the society, and no inducement to work against it, unless he is so venal as to accept pay from some manufacturer or publisher.
>
> The various societies are taking up different plans for the obtaining of special prices, gathering information, conducting investigations, and, in a few cases, joint buying and selling.
>
> Together with a firm determination to run their own affairs, there is a spirit of cheer and hopefulness that bodes well for the future progress and success of the craft.
>
> ARTHUR C. MILLER.

It will be noticed that Mr. Miller starts out by saying that the editorial on page 733, "bespeaks an imperfect conception" of what he calls the "Independent Movement." It is hardly correct to speak of an "imperfect conception" where there is no conception at all; for the said movement was not spoken of in the editorial mentioned, was not hinted at, and, indeed, was not in mind at all.

On the other hand, Mr. Miller will pardon the opinion that his conception of "The Honey-Producers' League" is somewhat imperfect. He says it was ostensibly for much the same purpose as the contemplated "Honey-Producers' Exchange of America." The purpose of the Exchange was to handle the honey crop. The purpose of the League was to get before the public such literature as would benefit honey-producers, but with no thought of handling a pound of honey nor bee-supplies. There was plenty of time to organize the Exchange before the League was mentioned, and there was just as good opportunity after, for so long as the League had no thought of handling honey or bee-supplies in any way, it is incomprehensible how it could hinder the work of the Exchange by giving the Exchange free advertisements.

It may also be said in passing, that equally imperfect was the conception that the League was in any way in conflict with the National Association. The National had no publicity department, nor did it contemplate anything of the kind. The League was occupying ground that no other organization occupied, and was not in competition with anything. Instead of being in any way a damage to the National, it has put into the treasury of the latter some $1400 to be used for the benfit of bee-keepers in general. Perhaps Mr. Miller is right in saying that the action of the League was not co-operation in the commonly accepted meaning of that term, for the number that were willing to co-operate was so small that it certainly could not be called co-operation on a large scale, the result being that a few men paid some $1400 to be used for the benefit of the whole.

Mr. Miller says the League was looked upon with suspicion, because among the organizers were representatives of supply firms and trade papers, and men who do not have the confidence of the honey-producers. It may be pertinent to inquire whether suspicion may not attach to the movement Mr. Miller champions, and on the same ground. Its chief advocate is a trade paper published by a supply firm, Mr. Miller being one of its editors, and it would be nothing unnatural if there should be those who might inquire whether the present move is one altogether of bee-keepers. In any case, the American Bee Journal, having no connection with any supply firm, and interested in supply firms only as they are of interest to bee-keepers, is ready to hail any movement that will advance the interests of bee-keepers, only so that it be convinced that the movement is honestly in that direction.

Miscellaneous News-Items

The San Antonio National Convention, as most of our readers know, is to be held Nov. 8, 9, and 10. So it is about 5 weeks until the meeting. A letter received from the Texas Committee of Arrangements, informs us that they have secured a new, up-to-date hotel for the bee-keepers' headquarters. It is the Grand Central, its rates being 50 cents per night for lodging, and meals 25 cents each. Several "extras" are being planned by the committee, one of which is a trolley ride, and the other a Mexican supper. (No doubt the latter will contain some "hot stuff.") Market Hall has been secured for holding the sessions of the convention.

As before mentioned in these columns, a special car of bee-keepers is being planned to start from Chicago the forenoon of Nov. 6, arriving in San Antonio the morning of Nov. 8. The round-trip rate from Chicago will be $25, with berth two nights for $4.25 extra. All who will be able to join the special car company should write us for descriptive circulars showing points of interest along the route, and also let us know in time so that we can reserve berths in the car. We will arrive in St. Louis the evening of the 6th, where a number of bee-keepers are planning to get aboard. From St. Louis the route will b down through Indian Territory. Some have objected to passing through New Orleans, but the special car will not go anywhere near New Orleans.

Any bee-keepers north and east of Chicago will, no doubt, be glad to be one of the carload that expects to start from here Nov. 6. We will be pleased to do whatever we can to reserve berths and arrange for a pleasant trip for all who can go on the special car.

◆

Mr. Harold Hornor, associate of Wm. A. Selser, the well-known honey-man of Philadelphia and New York City, dropped in to see us recently. He was on a Western trip, visiting honey producers and dealers. The kind of honey they bottle seems to be very scarce.

◆

The Apiary of J. H. McGuffin, of Mart, Tex., is shown on the first page. When sending the photograph, Mr. G. wrote as follows:

> I am interested in bees, and love the work and the "old reliable" American Bee Journal, which is my guide to success. I had only 9 colonies that had gathered 500 pounds of horsemint honey by June 30, which finds a ready sale at 12½ cents per pound. I work at my bees noons and on rainy days.
>
> The picture which I send shows, in addtion to the apiary, my mother, sister, little brother and myself. In the background is our country garden, and heavy timber on a creek. We usually have a honey-flow from cotton the first of July. J. H. McGuffin.

◆

A Correction.—C. P. Dadant refers to the omission of a word in "No. 18.—Dadant Methods of Honey-Production," as follows:

> "Page 800, middle column, second paragraph, should read, 'Some apiarists hold that *good* queen-cells,' etc. Otherwise I seem to make an absurd statement, for we know that colonies rear queen-cells whenever they are queenless."

◆

Mr. W. H. Root, of Carroll, Nebr., and part of his apiary are pictured on the first page this week. Mr. R. wrote thus when sending the photograph:

> I enclose a picture of myself and part of my apiary. My real object in the picture was to show the 3-year-old plum tree in full bloom, which was a fair sample of about 100 trees in an adjoining yard or orchard.
> W. H. Root.

◆

Mr. C. P. Dadant received a postal card recently from Frank Benton, dated at Agra, British India, Aug. 2. He announced his departure for Manila shortly. Agra is at the eastern extremity of Rajpoutana Province, in Central India. Mr. Benton will surely bring back with him very interesting apiarian experiences, an account of which we will hope to have the privilege of placing before our readers.

◆

The Irish Bee Journal recently devoted a page to the Editor of the American Bee Journal, under the title of "Workers in the Field of Bee-Literature." As an editor, Mr. Digges evidently appreciates the work on a weekly like the American Bee Journal as few others would, for he says:

> "To prepare and issue every week in the year such a publication as the American Bee Journal, constitutes an amount of work which can admit of few intervals for personal correspondence."

Well, there *is* considerable to do, and so there are practically no vacations for the editor of a weekly bee-paper. However, the work is very pleasant, especially with the faithful and efficient assistants which we are so fortunate to have in and out of our office.

Not the Honey-Comb Kind

Stern Lady—"Why don't you lazy hoboes emulate the busy bees?"

Sandy Pikes—"Ah, lady, we do emulate the busy bees."

Stern Lady—"In what way, pray?"

Sandy Pikes—"Why, ain't we always filling cells?"—*Chicago Daily News.*

◆

The Ohio Farmer, one of the leading weekly farm papers of this country, we offer in connection with the American Bee Journal, both for one year, for $1.35. A sample copy of the Ohio Farmer may be had by sending the request to Cleveland, Ohio. All orders for subscriptions on this combination rate of $1.35 for the two should be mailed to the office of the American Bee Journal.

Southern Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Texas Then and Now

Out in the wild woods of Texas,
And on its far-stretched plain,
My mind has often sauntered,
And bright memories return again.
With wild beasts growling, feathered fowl,
The coyotes' howling, and hoot of owl;

With stretches of nectared flowers,
And lofty, mighty forest trees,
In which instead of new-fangled hives,
Lived most of Texas' honey-bees.
But that was in the by-gone past—
Texas has changed, and is changing fast.

Texas Bee-Keeping 27 Years Ago

The incidents of my boyhood days are fresh in my memory, and it is with much pleasure that I write something of bee-keeping in the grand old State of Texas 27 years ago—the land that comes the nearest to flowing with milk and honey.

Permit me to say that I am glad that I was reared, as I was, in Texas. We left Georgia to make that well-reported State our home, and so well were we pleased, and so bright did the prospects become the farther we penetrated the land, that we went as far as we could by railroad; but railroad facilities in Texas at that time were very poor. So we concluded to buy a large ox-wagon, and a large yoke of oxen, and take the country in. We also bought a good wagon-dog, and pulled out. Thus we traveled from place to place for 4 years and 5 months, most of the time in Texas, hunting and fishing; but sometimes we would stop for a month or so, and work to raise some cash to tide us on. Sometimes we were alone; then, again, there would be 50 or more wagons with us.

Many were the incidents that happened along our travels, but the most noted ones were coming in contact with wild animals. It would often happen that we would have to cook meats after dark in the desolate sections, and they would come up howling and growling with hunger, and stare at us with their eyes looking like balls of fire. Often they would crowd us so close that we would be compelled to move on.

But I started to write something of what we saw and experienced of bee-keeping along our travels.

The bee-industry in Texas at that time was not receiving much attention. Log gums were having their day, but some had what they called patented hives of their own get-up and make, and they were complicated affairs, to be sure. Many of them had to be torn completely up to be "robbed," but the movable-frame hive had become recognized, and many of the progressive bee-keepers were using them, but not extensively. Bee-keeping was to be a part of our occupation when we located. So we had our eyes open to the industry, and saw a great future for it, and finally got a bargain in a lot of bees in Wood County, rented a small farm, and, as we thought, settled for awhile, at least.

Our stay was not so long as expected, for we had a severe cyclone in which we came near losing our lives; losing all our supplies and part of our stock; and our little apiary, which was located near a branch on a hill-side, was completely covered with logs, tree-tops and rubbish, so much so that we never saw even a piece of a hive, and but few stray bees. This was the first and last apiary we ever owned in Texas, but many of our neighbors had bees, and were glad to get us to look after them, which paid both them and us well.

We pulled up stakes that fall and started out on the march again. We were not discouraged, and expected to locate again. Bees were well scattered in many portions of the State. Nearly every farmer had an apiary of some size, and the forest was full of bee-trees. The bees were so furious that many of the hives had never been robbed, and the bee-trees were old and rich. Cutting these, hunting and fishing, was the sport of our traveling, and well does the writer remember the many sleigh-loads of nice honey we pulled from the thick forest. Where-ever we saw bees on the farms we were most sure of the job of taking their honey. For this we would take in exchange, corn, chickens, meat, so much money, or a certain part of the honey, which we sold along the road.

We cut a bee-tree for an old gentleman by the name of Rush, sawing it off below and above the entrance, nailing on bottom and top, and carried it to his house, setting it up in his yard. Afterwards we received a letter from him, saying the colony had cast 7 swarms, and that he saved 6 of them and had taken off a barrel of honey that season.

We hived a swarm for an old gentleman by the name of Williams, who had about 40 colonies under 2 large peach-trees in his back yard. The bees had settled in the top of one of these trees, and were giving him no little trouble. We hived the bees, throwing a rope over a small fork in the top of the tree, drawing the hive up and letting it swing just over the bees. We remained with him until nearly night, taking off honey. We got all we could out of the job and pulled out, leaving instructions for him to loosen the rope and let the bees down that night. Afterwards we received a letter from him stating that he forgot to let the bees down, the hive got heavy, split the limb off, fell on top of two other hives and tore them all up; also that he and his family were confined in his house for 2 days (except at night), and that his large herd of cattle and other stock he had penned near the bees, broke out, and some of them he had not even heard of.

We traveled on, prospecting and doing all the work among the bees we could. Often we would find well-cared-for apiaries, and in some sections many men enthusiastic over bee-keeping. But there were drawbacks to the industry, nearly total honey-failures resulting in a lot of feeding. Transportation was very poor, and in most sections the market no better. Most of the county-seats consisted of only a few families with 1 or 2 stores. A large shade-tree with 2 or 3 punching benches was the Courthouse, or a huge loghouse, or something no better. So the market was indeed poor. Besides, there was plenty of wild honey from the woods.

Mother Nature has greatly enriched portions of Texas with a vast amount of honey-plants. At the same time, men have done their part, and both have made it the greatest honey-country. Oh, that we had men with as much grit and faith in the bee and honey industry all over the South!

Cordele, Ga. J. J. Wilder.

The above recalls to the mind of the writer many an incident relative to the bee-keeping industry in some of the lesser populated districts of the great Lone Star State, even at a later date than that given by Mr. Wilder. Even 15 years ago, there were many places where just such things prevailed as are given in Mr. Wilder's narrative.

The object in giving this narrative at this time is that it seems to be quite opportune and "in season," since the time of the meeting of the National Bee-Keepers' Association at San Antonio is close at hand. It is given for a purpose, to show our Northern and Eastern friends, coming from the older settled States, the newness of our State of Texas in the bee-keeping industry. Those were the times of the six-shooter and the bowie-knife, but the country is much more civilized now than many of the "tenderfeet" might expect.

When the National Bee-Keepers' Association comes Texasward, it will see a new country; things may look "wild and woolly," but at the same time, my dear friends, Texas is making great strides forward. She has a bright future. The Texans are also proud of the State. As a honey-producing State, it has forged its way steadily to the front, and, with further development, the industry will improve. I am only saying these things so that strangers may be informed a little ahead, you see.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Our English Sisters

Again the sisters seem to be taking their full part in England. Recently, as recorded in the British Bee Journal, after an examination for certificates as experts, there were granted by the British Bee-Keepers' Association 32 third-class certificates, and of these 23 were to women. Strange to say, not one married woman was in the lot.

Bees Attack a Woman

A swarm of bees in Oak Park improved a shining hour yesterday by taking possession of the kitchen of Mrs. Earl C. Dodds, who was in the kitchen, and the bees objected to her presence. She was attacked by the full strength of the Honey-Makers' Union, and stung severely on the arms and shoulders. A policeman was summoned, and with head covered, he groped his way into the kitchen, where he smoked the invaders out with sulphur.—Chicago Daily.

If the additional statement had been made that a careful count showed the number of bees in question to exceed a million, and that in the space of an hour after entering the kitchen, they built a comb 6 feet long and 4 feet wide, one might not be able to prove to the satisfaction of all that such a thing never happened; but at the same time there is no law compelling belief of such a statement, and without subjecting oneself to criminal prosecution, one may be allowed to indulge in mild doubts as to the truth of the statements really made.

Watering Bees—Yellow Sweet Clover

Dear Miss Wilson:—You ask me in regard to my practise of watering bees. I certainly do warm the water for them in early spring, when what they would naturally find is icy. I winter my bees on the summer stands, and brood-rearing goes on very early. I have opened hives in January to see what was doing, and found brood in all examined.

Of late years I use a stoneware invertible poultry-fountain, gallon size, for the early watering. The water I put into this each morning is *quite hot.* What runs out, of course, cools so that it will not burn. The dome of the fountain stays warm for a long time, making a comfortable alighting place. I put little sticks in the saucer, so that bees do not drown.

Later in the season I use, in addition to the fountain, a large jar of salted water, with a float bored full of auger-holes. More than one of these floats are needed, as they get water-logged. To use sticks of fire-wood, *a la* Dr. Miller, would be all right if one had them. Fire-wood is a scarce article here. What would you think of *corn-cobs* for summer fuel?

Right now my bees are enjoying a good heartsease honey-flow. They are busy—"said Gilpin, '*So am I!*'"

(Mrs.) A. L. Amos.

Comstock, Nebr., Aug. 24.

P.S.—I am sending you a few seeds of the yellow sweet clover, thinking, perhaps, you or Dr. Miller might care to experiment with it. He told an inquirer lately about its being *2 weeks* earlier than the white kind. It is *4* "in this locality." A. L. A.

Sticks of fire-wood for watering bees are now out of date here. Cork-chips have been used the past summer with immense satisfaction, covering the entire surface, and never becoming water-logged. I am sure you would like them.

Thanks for the seed of yellow sweet clover. It is quite possible that it may be 4 weeks earlier here. We have never had it, and never thought we cared for it; but this year we have changed our minds, for white clover has failed utterly to yield, and the yellow sweet clover might have been more obliging.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Repressing the Swarming Impulse by Changing the Brood

On page 753, Mr. Hasty says: "W. T. Brite's idea that young larvæ on the *outside* of the brood-nest are more repressive of the swarming impulse than when in the center, may have something in it. More nurses have a chance to take a hand." That point is well taken. But there is another forceful factor in the matter. It gives more room for the queen, and relieves the congested condition of the center, by distributing the nurse-bees to the outside of the brood-nest.

Another thing: This new condition of the brood-nest has a healthy influence upon the super, or supers. First, by the distributed condition of the bees, and, second, by forcing the honey above. I have mislaid Mr. Brite's article, and maybe he has covered the same ground. S. T. Pettit.

A Discouraging Report

My report is as follows: About 300 pounds of fair extracted honey, 15 swarms, a lot of missing queens this month, and a large crop of new experiences throughout the season. I will have to feed about 200 pounds of sugar.

Palermo, Ont., Aug. 17. H. A. Smith.

Mr. Smith, it will be remembered, had serious experience with bee-paralysis.

Fall Feeding of Bees

The time for fall feeding is right here, and a little bit of personal experience might be in order.

For years we extracted from supers when there was considerable brood in the brood-chamber, and not sufficient honey for winter. A little later, when the brood was mostly hatched out, the colonies were weighed and fed, on the average, about 20 pounds of sugar syrup. This involved a great deal of work, and danger of robbing. The extra honey had to be marketed, and the sugar bought, and when made into syrup and fed, the gain in weight to each hive was not more than the weight of the dry sugar used in making the syrup. There was also the suspicion caused by the feeding of sugar to bees, even though the reason was ever so carefully explained.

Recently I have done away with all this. At the time of extracting and removing supers each hive is weighed, and combs of sealed honey put down in the place of lighter combs, which are taken out and extracted. Ample allowance has to be made for brood, which weighs as much as honey, yet will not answer for winter stores. Allowance must also be made for the eggs which will hatch and the unsealed brood which will consume quite a quantity of honey before it is matured. After all brood is hatched and the colony is clustered for winter, there should

(Continued on page 850)

Contributed Articles

Wide-Frame Super Vs. T-Super Once More

BY F. GREINER

On pages 641 and 642, Dr. Miller gives his reasons for preferring the T-super to others. The principal one is that a T-super is more compact, and brings the sections closer to the brood than any other contrivance. The other reason he gives, that of taking the filled boxes out *en masse*, I consider of no importance. Perhaps Dr. Miller has not used a good wide-frame super from which the sections may be removed in less time than from a T-super. Many a bee-keeper has been surprised at the ease and the speediness with which the filled sections come out of my wide frames, and the frames out of the super when handled by one accustomed to the work. But any super which admits an easy removal of the filled sections can not meet with objections on these grounds, and for the sake of the argument I will admit that the T-super is the equal of other supers in this respect.

Let us return now to Dr. Miller's first-given reason of the super being more compact and bringing the sections closer to the brood. Let us examine into the merits of this case.

What is the experience of other bee-keepers? James Heddon invented the break-joint honey-board to be placed between brood and sections; he advocates its use, and W. Z. Hutchinson, as well as others, are in favor of its use. Evidently they have not discovered the disadvantage of thus increasing the distance between the brood-chamber and honey receptacle. If there was a marked advantage in bringing the sections as close to the brood as the T-super does, these men of experience would have seen it. As keen an observer as Doolittle, continues to use the wide-frame super, which increases the distance between brood-frames and sections by ¼, or possibly 5-16, inch against that of the T-super; he has not discovered it to be a drawback. Many bee-keepers even use a queen-excluding metal sheet between brood and section super. Theoretically, can anything be invented to hinder the bees and to take possession of a super, worse than that? Can there be anything more disgusting put on the inside of a hive than that? Still, bee-keepers continue to use these instruments of torture without finding a serious drawback therein.

In 1886, I saw the first T-super during a trip through Virginia. The cheapness and simplicity of it, as well as this very fact, that by the use of it, sections were brought very close to the brood, induced me to fit up an apiary in the Shenandoah Valley with such T-supers. After using them for 2 years I was glad enough to sell them at a song. About 10 years later, being persuaded by my friend, E. H. Perry, I gave them another trial, building some 50 or 60 of such. I have used them ever since, more or less, and have now discarded them.

The advantage of the T-super, being in closer touch with the brood-chamber, I find is imaginary. When supers are stacked up, then, of course, a pile of T's is a little lower by ⅝ inch per super as against wide frame supers, or by 5-16 inch as against other styles. I consider this difference so insignificant as to be all out of proportion to the advantages the other supers possess. Before speaking of these advantages of other supers, especially of the wide-frame super, allow me to repeat again wherein the T-super has greatly troubled me:

1. "With the amount of propolis gathered here, it is often an impossibility to remove the filled boxes from the surrounding case without injury to the honey." A T-super might be so constructed as to remove this difficulty by keying up the sections on all four sides, if otherwise there were merit enough in the contrivance; but as there are other bad features enough to condemn it, I would not want to go to all that trouble.

2. "It is my experience that sections do not fold square." Sometimes only a part in a crate are faulty in this respect. Sometimes the whole lot is so bad, some folding diamond shape, that when placed in a T-super one corner of each section bobs up. There seems to be no way to keep it down. The springs at the side of the super do not exert pressure enough to hold it in place when pushed down. A wedge does not do it. A screw, or, rather, 5 screws to each super, where 4 sections are in a row, might do it. I don't know. These naughty sections give me no trouble with my wide-frame supers.

3. A most serious drawback to the T-super lies in the fact that it must be handled very carefully before having been on the hives. It can not be set down anywhere in the apiary like other supers, or it becomes disarranged. Nothing has tried my patience more than this bad feature of the T. Being accustomed to drop my wide-frame supers anywhere on the ground when at work among the bees, I have had many an accident happen of this kind with the T's. It requires a lot of time to get a T-super back in shape. The sections have a way of catching on the tins at the bottom, and no way of getting at them easily; the wooden strips between the tops of sections require a world of patience to replace when hurrying the work. Well, in brief, deliver me from the T's.

4. An illustration I gave some time ago shows how badly sections become soiled here when not protected by a full wide frame, and I need scarcely say any more on this point. However, it is claimed by Dr. Miller, that the bees have a naughty way of crowding in propolis between the top-bars and tops of sections, which fact can not be denied. The bees here are as guilty of this as are the bees in Illinois. When sections are taken out of wide frames they often are encumbered with little ridges of the sticky or brittle substance—according to the season of the year and the temperature—along their edges, particularly on the tops. The question now arises, which is more difficult, to remove these ridges, or to clean, scrape and sandpaper both top and bottom of each honey-box? Any one need not be familiar with this work, but he can tell at a glance, that 10 sections from a wide-frame super can be made presentable in less time than one can out of a T-super here in New York State. The matter must be different in Illinois, or as good and fair-minded a man as Dr. Miller could not possibly defend the T-super. Why, this feature alone is sufficient to decide the matter in favor of wide frames.

With the above we have now come to the advantages of the wide-frame super. In the first place I repeat, the frame protects the section; not only keeps it clean, but also keeps it in shape. The sagging of the bottom-bars, which sometimes occurs, is of little moment, and with a 5-16-inch bottom-bar would be insignificant. It could be wholly prevented by using the sections crosswise of the hive, placing but 3 sections into each frame. I imagine Mr. Doolittle uses them in this fashion. In the Betsinger super, each wide frame has a follower and tightening screw at the end, thus making everything most rigid. This tightening screw has the other advantage of counteracting inaccuracy of workmanship. I find sections vary in size. Even when bought of the same manufacturers each year, the output of one year is not exactly like that of the next. One year the sections may just fill the frame to a nicety; another year they go in loosely. In this last case, bottom-bars are more apt to sag than when the 4 sections are a perfect fit. Two years ago I bought sections, and found they measured 1-16 inch more to the 4 than they should have done. They were standard goods, 4x5x1½. I had a lot of trouble with them. The follower and tightening screw would have saved me a world of trouble and vexation. In speaking of these little imperfections of sections, I do not mean to find serious fault with the manufacturers. I am not sure but what it is a practical impossibility to make one-piece sections so exact that 4 sections placed side and side measure 16 inches to a hair; I only mention this to show what the conditions are under which we labor, and how we can best remedy existing evils.

Returning now to the wide-frame super, I wish to add that it is a most convenient fixture in the shop as well as in the yard. One can hardly disarrange it, and if, by chance, it should have become so, order is very easily restored.

In a poor season, when bees need but one super per hive, a little more room can easily be given by removing 4, 8, or 12 sections from a super *while on the hive*, and replacing with that many empty ones. The advantage is, the sections are handled in 4's, and can be handled very roughly and quickly. It is a practical impossibility to remove full sections from a T-super while on the hive. With the wide-frame super it is easier than to remove a frame from the brood-chamber.

Dr. Miller often mentions his "go-backs." It is very fussy work with the T, to fix up a super full of these, but it is very easy and simple with my super. Usually, if any sections in a super are unfinished, they are found in the outside row. In a moment these 4 are lifted out of one super and returned to another. It may be done before the honey goes to the honey-house, or before it is brought home from the out-yard, or it may not be done till all is brought in, *ad libitum*.

The wide-frame super has all the advantages of the T-super, and few, if any, of its disadvantages.

I believe the wide frame originated with A. I. Root, and was used in the double-tier. A double-tier super is, for many reasons, undesirable, and all bee-keepers at the present day use any of the supers in single-tier.

It is needless to say that I am not interested in the sale of wide-frame supers, for, like the T-super, they are not offered for sale anywhere, to my knowledge.

Naples, N. Y.

The Object of the Honey-Bee's Creation

BY GRANT STANLEY

I have read and re-read G. M. Doolittle's article, on page 635, on "The Relation of Insects and Flowers," wherein he says, "I understand that the first purpose for which the honey-bee was created was for the fertilization of the flowers." I can not agree with Mr. Doolittle on this point, and hope to show that the honey-bee was created for the very purpose in which it is engaged to-day—the gathering of honey for the benefit of mankind—and that the question of fertilization of the blossom was of a secondary nature.

The fact that the honey-bee is a great aid in the fertilization of certain plants at the present time, does not prove that such has been the case throughout all ages of the world. Is it not true that the blossom requiring the agency of the honey-bee for its fertilization at present is in most cases that which has been propagated or improved by man? That this is true of the various fruits and clovers very few will deny. They have been crossed and re-crossed for the purpose of improvement, and to produce new varieties, which necessarily requires pollen from other plants of the same kind to make the crosses effective. The further away we get from the original, the more this becomes necessary. We have some kinds of strawberries that require no outside agency to fertilize them, as this feature is present within their own power.

This is not a feature, either, that has been brought about by man, but one that has been with it from its very existence, that it need not "nod its head to the breezes" in quest of the honey-bee for fertilization—a feature that can be traced back to most remote ages. In this very respect you will find, upon close investigation, that away back in the days of the patriarchs, when plants of every description grew wild, and dotted hills and forests everywhere, these plants needed not to depend upon the honey-bee for their fertilization; but since man has become such an active agent in improving and bringing out new varieties of every description, it is evident that some agent to cross-pollinate these flowers effectively, has become apparent for this reason, that we have gotten so far from the original that it makes it imperative, else the species would soon die out entirely.

This is not the first instance of this nature where wonderful results have been achieved along particular lines at the expense of great weakness in others. That there are continual changes going on in all plants, either by the assistance of man or otherwise, no one will dispute, and Darwin tells us, in his "Origin of Species," that the blossom of the apple at the beginning was green, and from the constant change it has undergone, we have the beautiful blossom we see to-day. I am not ready to believe this, however, for the reason if so much change has taken place in the blossom, the leaves remain green throughout all these centuries, or has this change of blossom been brought about in order that the bees be attracted to them to pollinate the bloom in order to save the species?

But from the above it will be seen that from these continual changes the time has arrived, and it will be more so in the future, when the honey-bee plays a strong part in the fertilization of many blossoms, but it has not been true throughout all the ages of the world.

Now let us look at the question as regards man. Ask the men who are making a speciality of bee-keeping to-day, if they think such a wonderful little creature as the honey-bee capable of doing so much, would be created for such a minor object as that of the fertilization of blossoms. We are told that milk and honey were the chief dainties of the most remote ages, and butter and honey are also mentioned among articles of food. The Bible has many references to honey, and speaks of it in very strong terms, and we find, as far back as Moses, it speaks of the "land of milk and honey," which would indicate that honey had been a staple article in a very early age of the world, and not a matter of secondary importance, as Mr. Doolittle would have us believe.

Now, like Mr. Doolittle, I am no botanist, but I view this question in just about the opposite from him, and what I have written above has been for "leaving down the bars" and have the opinion of others, and, in the meantime, show that the honey-bee was created, and has been improved, for the very purpose I mention—the gathering of honey for the benefit of mankind.

Nisbet, Pa.

Wintering Bees—Other Recent Subjects

BY ADRIAN GETAZ

A three cornered discussion, on how to keep bees warm during the winter, has been going on lately in Gleanings. The principal fact is that the bees, like all the other animals, eat to keep warm. The honey eaten is, so to speak, burnt during the digestion, and the "combustion" produces the necessary heat. So the colder the surrounding air, the more the bees have to eat to keep up the necessary temperature of their bodies.

A single bee can not eat enough to stand anything like real cold, because her whole body is exposed to the cold. But if a number are clustered, they can stand quite a low temperature, because only the outside bees are exposed, and partially at that. This is not strictly correct, however. A cluster of bees is not air-tight, and therefore the warm air inside must escape more or less at the upper part, and be replaced by cold air entering from below.

The larger the cluster of bees, the easier it is for them to keep warm. There is far less surface exposed in proportion. A cluster four times as large (in volume) has only twice the surface exposed. Then the heat from the interior having more space to travel to reach the outside, is thereby considerably retarded, and the loss decreased in proportion.

It might be asked here, What is the use of having a hive if the heat is confined to the cluster? That is, except to protect the bees against the rain and the wind, and furnish them a place for their comb and honey?

Well, there is; and I think a comparison will explain better than a theory. Suppose a house with thin walls of clapboards and ceiling, badly jointed, the doors and windows carelessly fitted, and perhaps some glass broken. Let come a real, cold blizzard, and you might keep the stove red hot the whole time, and the room would not be much warmer than the outside world. But take a good, well-built brick house, with double windows, and everything tight, and a comparatively small fire will keep the room comfortably warm.

Now that is an exact parallel of the hive and bees. The cluster of bees eating honey is the counterpart of the stove burning coal, and the two houses correspond to badly and well protected hives.

TEMPERATURE OF THE CLUSTER.

The temperature of the cluster, and, in general, of the hive, was first investigated in the early part of the last century by Newport, in England, and Dubost, in France. The temperature necessary for the brood is about 89 or 90 degrees. It may vary from 82 to 95 degrees, but outside of these limits the brood seems to suffer. During a dearth of honey in summer, when the bees cease to rear brood, they are not so particular, and do not always keep the temperature so high. In winter the temperature of the cluster may vary greatly, but even the outside of the cluster never falls below 68 or 70 degrees. The inside of the hive, outside of the cluster, is always warmer than the outside of the hive, but the difference varies greatly. Dubost also observed that the center of the cluster is often warmer in very cold weather than in more moderate temperature. This could be expected. Referring to our comparison of a room and a stove, the colder the weather the hotter the stove must be. The temperature of individual bees on the wing is given by Maurice Girard at 9 to 13 degrees above the surrounding air. The temperature of the thorax is always higher than that of the abdomen.

Doolittle's observations, given in some of the back numbers of this paper, do not exactly agree with the above. But the conditions were very likely not the same. The winters of France and England are considerably milder than those of New York. And not only milder, but more uniform, the temperature varying but little from day to day. The style of hives, and size of the colonies, should be taken into consideration. The method of observations was not the same. Dubost had several thermometers inserted in the hive, the stems coming out at the top. Glass on the sides of the hives enabled him to see the position of the bees relatively to that of the thermometers. Doolittle, as stated in his writings, used a maximum and minimum thermometer.

I accidentally found the following from Dr. Miller, in the American Bee Journal for April 28, 1898, page 266:

> "The bee is a warm-blooded insect. According to some the temperature of a bee's body under normal conditions is 81.5 degrees; according to others, 95 degrees. Some bees that were torpid in a temperature of 48 degrees, but brought back to life in a temperature of 59 degrees, showed a body temperature of 77 degrees. The cluster in winter is kept up to 50 to 53 degrees at its outer part. When the surrounding atmosphere goes down to zero, or lower, the bees in the center of the cluster run the heat up to 86 degrees or more, by means of eating and exercising. This increased heat in the center of the cluster is necessary, so that the outer part of the cluster may not go below 50 degrees, and explains how it is that breeding is commenced in colonies out-of-doors, but not in cellared colonies. The center of the cluster in the cellar is too cold for breeding, for it doesn't need to be heated to keep the outer bees warm enough."

Mr. Devauchelle gives a description of the position of the bees in the cluster during the winter. In the colonies examined, the cluster was entirely on the part of the combs that was empty of honey. In each cell was a bee, her head turned toward the bottom of the cell, except, however, near the center where a little brood was found. Between the combs the bees are loosely grouped except at the outside of the cluster, where they form a compact covering. Each bee has her head and thorax under the abdomen of the one above her, the abdomen turned outside. At the top their position is nearly horizontal, and more and more inclined in going toward the bottom. The colonies examined—4 in number—were in double hives. In each one the cluster was found in the corner, between the front wall and the partition. The outside of the cluster, that is, the part not against the wall and partition, was about the shape of a sphere cut in 4. The examination was made on Dec. 26, by an outside temperature about the freezing point.

In another examination, made in October, he found a little honey in the bottom of some of the cells inside the cluster near the center. Whether these cells were also occupied by bees he could not tell, because, the weather being warmer, the bees got out of the cells too quick to observe very closely. The full account of it is in the Apiculteur for October, 1904, page 400.

In connection with the form of the cluster, I might here give the description of a swarm hanging under a limb and working in the open air, as found in Mr. DeLayens' works on bee-keeping. The shape of the cluster was about as usual, and remained so. The outside bees were placed as described above, shingle-like fashion, abdomens turned out, very close together. At the bottom an opening is left by which the worker bees go in and out. The outside bees make a rain-proof cover. Inside, the bees are loosely placed. A comb is commenced. When it is the size of a man's hand, two more are started, one on each side. As the bees increase in number, the cluster enlarges and the combs are extended, and more added. The shape remains the same.

POLLEN.

In a recent communication, Mr. Doolittle made a remark which I consider of the highest importance. He says that in the spring of the year, whenever a spell of bad weather occurs and lasts several days, brood-rearing ceases completely, or nearly so, even when the colony has plenty of honey available. He adds that the cause of it is a lack of pollen. We all know what a large amount of honey is consumed during the height of brood-rearing, and there is no doubt that a correspondingly large amount of pollen is also required. What is left in the hive since the preceding fall can not go very far.

Giving flour outside is a very poor help, as the bad weather will interfere with its taking up, as well as with the gathering of pollen. Another inconvenience is that the bees, when they know where the flour is, will come after it when the weather is not quite warm enough, get chilled, and are lost.

A large number of them are lost every spring by going after water when the weather is too cold. If some kind of arrangement could be devised by which the bees could be fed the flour and water needed during the early spring, inside of the hive, and without having to open it, it would be a considerable saving of bees, and an equally valuable increase of early brood.

Very likely many unlucky queens have been decapitated on account of unprolificness, when the trouble was a lack of pollen or some other adverse conditions.

B. Taylor was in the habit of replacing, every year, those of his queens that were defective in some way or other. One year, a quite inferior queen was not replaced; the following year that queen proved to be one of the best in the apiary.

APICULTURAL ASSOCIATIONS.

Some questions have recently arisen among the bee-keeping fraternity about the best way to manage bee-keepers' associations. One point raised is whether the honey dealers and supply dealers should be admitted or not. The European associations do not admit them. I think that is right. The interest of the bee-keeper is to sell his honey as high as possible. The interest of the honey dealer is to buy as cheap as possible. The interest of the supply dealer is to sell the supplies as high as possible; that of the bee-keeper to buy as cheap as possible. An association of clashing interests is an anomaly, and a failure. Just think of the United Miners' Union admitting Baer, Cassatt and other coal and railroad magnates in their union, and electing them to the highest offices!

My ideas are those of the European bee-keepers, each association covering only a moderate territory, having as nearly as possible the same markets, the same conditions—in a word, as many points in common as possible, close enough together to see each other often, and having to go only a reasonable distance to attend the meetings.

If the honey dealers and supply dealers should be excluded from the local associations, I think they should be admitted in the National. That seems contradictory, but it is not. If there are conflicting interests, there are also common interests. Supply and honey dealers' prosperity depends, after all, upon ours. There are a great many questions that require numbers and influence, such as transportation, railroad rates, legislation on bee-keeping, legislation against adulteration, experiments on bee-keeping, subsidies from the States for Apicultural Divisions in the Agricultural Stations, etc. All these, to be prosecuted successfully, require numbers, money, and influence. And for such the co-operation of dealers, supply manufacturers, bee-paper editors, etc., is exceedingly valuable.

Knoxville, Tenn.

How Conscientious D. Catches the Queen

BY BARON M. LIEAWFUL

It has been a long time, my children, since I have written to you, the last time being the occasion I had of writing about the pupa-skinna-castoffica of the embryo queen, and of my 3-year-old worker-bees. The truth is that I have been so busy of late years caring for the progeny of that wonderful queen into whose bowels, through the wonderful agency of the pupa-skinna-castoffica (umbilical cord), I had injected the lives of 499 sister virgins, that I have had little time for writing.

But now that my grand old queen is dead, and all my efforts towards replacing her have failed, I have thought that my only easy way out of the loss was to practise the bee-keeping of Mr. Conscientious D. Like the rest of you I was puzzled to know why he should keep the secret from us, and though I did not care to know all about his methods, I did secretly long to know how he could in less than 4 minutes prepare a colony so that it would not swarm. After reading his article (see page 185), like all the rest of you, my children, I wondered what sort of bee had got into Brother Conscientious's bonnet. Really, I felt a little wrought up, and if Conscientious were my truly brother I should tell him strongly how I felt. I might even wish to throw some rotten drone-brood at him. But I solved his mean old problem, and it is for that reason that I am again rattling my typewriter to let you know about it.

At first I thought to think out the answer, but you know very well that your old uncle much prefers to get things physically rather than mentally, and that he enjoys an adventure. So I 'phoned for Yon's flying-machine and went post-haste to that far-away town in Minnesota. Did you ever travel in a flying-machine? No? Well, you will easily understand that that mode of travel offers little opportunity for inquiring the way. The matter of fixing the guide-posts has not yet been satisfactorily solved. Thus I was rather puzzled to know when I got there, or, rather, was getting there. But, wonder of wonders! You doubtless have observed that a man and a woman who have lived as husband and wife for two score years have come to look like each other. My children, Conscientious has imparted his very spirit to the region round about that town in Southern Minn. As I was spinning through the air I suddenly noted that the trees were taking on a different aspect, that their leaves hung more modestly, that the very grass waved less vigorously, that the birds sang more quietly, and that the very mosquitoes bit me only on the forehead. Soon a most modest town appeared, and on the outskirts there were to be seen numerous hives of bees. In their midst stood a man who wore a black tie and gloves. It was none other than Conscientious D.

As luck would have it, my anchor was skimming along just right to pick up Brother Conscientious as he was stooping to insert something into a hole in the hive. Fearing to injure the man I directed the machine up a little so that he cleared the ground, and hung safely above all obstructions. Then it was that I hit upon a bold scheme. Though he said he would rather die than to tell his methods to the American Bee Journal, he did promise to tell me if I would never divulge the secret. Of course I promised, for you know that I have an easy conscience.

So I hauled Conscientious up and got his secret. Later we descended, and I saw him go through the whole show. As he says himself, he does not expect anyone to believe his statements, and so I do not expect you to believe what I am about to divulge. Yes, I did promise, but if you expect me to keep that promise you can go and talk with Conscientious D.

Of all the schemes! I have to laugh every time I do the trick. The way Old Conscientious has played upon feminine weakness and thereby gained for himself, and imparted to me (and through *me* to you), a mastery of bee-keeping, beats all. True blue, I actually forgave the old chap when I learned the trick, nor could I blame him for wishing to keep it secret.

"You see, Baron," says Conscientious to me, "the female nature is subject to two marked peculiarities. It has a weakness for sweet scents and for mirrors. I reasoned that to hold the queen in the hive, and thus keep the bees from swarming, I must control the queen in some way. After many trials I have what you see here."

He held up a small thimble-like affair with a mirror in the bottom; also a small vial marked, "Queen Essence." He stated that in the vial was a decoction obtained by steeping the antennæ of drones (better, he says, the third joints of the antennæ) in clover-blossom tea. Going to a hive he turned a button and revealed a small hole into which he inserted the mirror-thimble. Then with a small brush he anointed the edges of the hole with the essence.

"There," says Mr. C. D., "that colony will not swarm till doomsday. The old queen will be looking into that mirror, to which she will be attracted by the essence, half the time. Even the bees will leave the swarming-fever upon seeing their mother become such a home-lover. If I leave the thimble in 2 weeks there will be a young queen hatched. She, prevented from going to the mirror herself through the jealousy of her mother, will become mated. Thus, through this wonderful little device, a colony is easily requeened. Every hive has, as you observe, the hole into which I can in 2 minutes insert and anoint the thimble."

Well, children, I did not believe it. I went home and tried it, and then was forced to believe. Were I conscientious I should never tell you the secret, for the knowledge of it will upset the bee-keeping world. A colony thus treated will hustle in the honey all summer long, never offering to swarm, and not sulking at all. It is wonderful. I find it hard to believe, and I fully appreciate the tax which Conscientious D. never put upon your credulity, but which I now lay where you wish it.

So, good night, my children.

Convention Proceedings

NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 768.]

Mr. France, the General Manager, then read his paper on,

BUSINESS END OF BEE-KEEPING

Some people say the business end of the bee is its stinger, but for me it is the long tongue "that improves each shining hour, and gathers honey all the day, from every opening flower."

The business end of bee-keeping means modern, systematic methods, familiar with and experienced in the best methods of handling bees. The rearing, introducing and shipping of queen-bees, controlling of swarming, producing the best quality and greatest quantity of honey per colony his locality can produce; the preparing of honey for market, and getting, in cash, what it is worth, instead of letting other people set the price and time to pay for it. The business end requires the bee-keeper to know what his locality is able to produce at different dates, also when to have his colonies in the best possible shape to get it. If for comb honey, all the sections with thin starters in, in supers, ready to put on the hives; or, if for extracted honey, an abundance of clean, straight worker-combs, all interchangeable. Not later than the close of a honey harvest to plan for the next. Early in the fall to have the bees ready for a hard winter. He has examined the several honey-producing plants of his locality with prospects for next harvest; has decided how many of his best swarms he desires to rear queen-bees from, which ones to rear drones for each apiary; how many swarms for comb honey, and how much extracted honey he wants. In the fall, as soon as the honey is sold, with the cash in hand, he takes advantage of low price of supplies, buying what he cannot afford to make. Then all winter he is getting all his hives made up and painted, brood-frames made and wired; sections with starters in supers ready; shipping-cases and storage for extracted honey in such packages as his market demands.

When you find a bee-keeper as carefully attending to his bee-keeping business as the successful merchant or other business man attends to his business, you will likely find hives all of one size, upper stories, frames or supers are a perfect fit anywhere. Hives painted and set in some regular order in the apiary so as to help the bee-keeper at work. He will have strong colonies at the beginning of the honey harvest, swarming under control, and the bees busy gathering honey. No hives with big clusters of bees loafing on the outside of the hive or going to the woods. In my State, while inspecting apiaries, often I do not find all of the above, nor the business end of bee-keeping. Sometimes hives shaded with the tall grass never cut, unpainted hives with crooked, old black comb, half of it drone-comb; bees swarming and going where they please—in short, the bees take care of themselves. This class of bee-keepers seldom have any fancy honey, but such as it is, goes to town to break down prices, which hurts both the producer and market for others.

If a bee-keeper has but a few colonies and handles his bees alone, he should have a method, business-like, so as easily to keep ahead of the work of the bees; or if operating several apiaries, and has some hired help, a small part of the year, each hired hand has his respective duties and is held responsible, so everything goes like clockwork.

When the honey harvest is over, the business end of bee-keeping requires the bee-keeper to know about what the honey crop of the United States is, what dealers are paying, and what in cash he should get for the different grades of his honey. I fear some of us have only partly finished our bee-keeping education. We have partly learned how to get all the honey our locality produces. We get some nice comb honey, but have by far too many unfinished sections, too many sections that will not case up well, too many grades and a poor market. Are we not to blame? The merchant spends much time and money to get trade, in advertising, displaying goods. Yes, each clerk must undergo a training of neatness, pleasant ways to await on customers. By his business methods he knows the daily markets, when and where to buy as well as to whom to sell goods on credit.

N. E. FRANCE

Then let us spend another hour studying how the manufacturer or professional man succeeds. All by strict business principles enforced. Can we not take a lesson?

When I go into honey commission houses and see the untidy, dirty cases of broken comb honey, several grades in the same case, thick and thin combs together, fancy combs in front of a case of poor honey, leaky packages of extracted honey, I wonder the commission dealer gets as good prices as he does. Who is to blame? Large bakeries now buy honey in car-lots at prices the average or smaller bee-keeper can not afford to sell at. He must sell to consumers, in such packages as such market demands. For my home market I find the 2, 3, 5, and 10 pound syrup or friction-top cans nicely labeled, the same as all canned shelf-goods, sell best. For farmer trade and shipping market, the 5 gallon flat-top, jacketed can with 3-inch screw cap, and bail handle, costing 35 cents each to any National member. Honey in this package goes over all railroads west of Chicago as fourth-class freight, billed "Honey in cans entirely encased in wood." I have no trouble to sell tons of honey in this package. Only in my home market, I sell liquid honey in winter, unless to some one who is a traveling salesman for me, going from city to city, and he has no place to liquify honey. For such customers, I remove the can from the wood jacket, set the can in hot water a little while, until the honey is liquified, then return the jacket and ship. This winter I have two such salesmen, one selling from 4 to 15 of those cans in each town. My home market (city of 3,500 inhabitants) uses at least 10,000 pounds of extracted honey and 500 pounds of comb honey each year, no one selling from house to house, but in every store in town where groceries, meat or provisions are sold, is the above-size labeled honey-cans; prices in each store, all alike, and marked on each package by me. Customers pays same anywhere, my house or town.

If I buy goods of my dealer he makes a profit on his goods in exchange, or if I draw cash for honey, I allow him 10 percent commission. Tons of my honey are sold this way in several cities. Why can't others do likewise?

To-day I called on a Wisconsin bee-keeper using business principles (by the way, he is here in the room). This year he got a pretty good harvest of 7,000 pounds fancy comb and 8,000 pounds of extracted honey, while his neighbor bee-keepers got less than half as much per colony. He also got a much higher price for his honey than his neighbors, who loaded in the same car; all cash at car. He uses fence separators, No. 1 plain sections, and extra-thin foundation; all hives leveled on stands, everything kept clean and tidy, while those other parties say "no use of all this." Remember, he got *twice* as much per pound as some of those parties. A few winters ago this same man was to read a paper at our State bee-keepers' convention in February, but when the date came, with the thermometer indicating 30 below zero, he wrote me his bee-cellar had cooled down *2 degrees,* and he must not leave his bees.

While at his house to-day he told me many neighbor bee-keepers were judging the amount of winter stores by lifting the hives. On examination, he found they were fooled, as many combs were heavy with bee-bread instead of honey. Excuse me for being personal in illustrations, but it is these *little* business ends of bee-keeping that pay. Let us think about such things, and in the future keep a better account of all expenses and sales so that at any time we can tell the number of colonies of bees, pounds of honey produced and sold, to whom sold, what kind of advertising paid us best, etc. Let us attend more bee-keeping conventions, read more carefully the bee-papers and bee-books, ever remembering this great land we call ours, is large enough for us all. With charity for all, and honest hearts, using the business end of bee-keeping, we continue in the sweetest occupation of our republic—bee-keeping for pleasure and profit.

N. E. FRANCE.

Mr. Moore—I would like Mr. France to state the style, net weight, and prices of the packages he gets for his honey for local trade.

Mr. France—I would rather use a 10-pound pail, as it is a little less work; but in spite of all I can do to try to crowd the larger package, students, who are largely consumers, buy the smaller packages, so that the 3 and 5 pound tins get rid of the larger portion of the honey. I have the 1, 2, 3, 5, and 10 pounds in the grocery stores. The 3's and 5's are the ones we have to renew. My price has been 8 cents a pound net for the honey, and then add the cost of the can to that, with no cans returned.

Mr. Hershiser—The cost of putting up the smaller packages is greater.

Mr. France—Yes, but having some hired help, when we have rainy days, they say, "Mr. France has a lot of work for us down at the bee-house, there is no play to-day;" so that the cost that way is not very much.

Mr. Hershiser—I put up a larger quantity in jelly glasses and I am able to net 13 cents a pound for them. I presume I have put up about 14,000 of the packages; and the honey I sell as low as 8 cents is put up in the wholesale package.

Mr. Holekamp—How do you keep these packages from leaking?

Mr. Hershiser—I cut a little cap out of paraffin paper just a little larger than the top of the jelly glass. Then force the tin-top of the jelly glass down over that, and it practically seals it, and it doesn't leak.

Mr. Bartz—As to the tin honey-package, isn't it stated in the bee-papers that tin is detrimental to honey? If this is so, I should like to have it stated here.

Pres. Dadant—That is so if the tin is made of lead. I have had as large experience as anybody in keeping honey in tin, and we have kept it for years. When it is cut, and the iron is shown, it rusts and darkens the honey. But with good tin after 5 years the honey will come out just as bright as the first day.

On motion of Dr. Miller the convention adjourned.

The President called on Mr. H. M. Arnd to read a paper entitled,

SUCCESSFUL EXPERIENCE IN THE MAKING OF HONEY-VINEGAR

As an introduction to this paper on successful vinegar-making, I wish to say that if it is of any value to the bee-keepers at large, a part of the thanks is due to George W. York, although he personally did none of the experimenting. He and I, under the firm name of "The York Honey Co.," expended hundreds of dollars on my instruction, experiments, and the manufacture of honey-vinegar.

Vinegar is produced by the action of oxygen on alcoholic fluids, under the influence of ferments of which the active constituent is acetic acid.

Honey-vinegar is usually made by the old, long process, which takes about one year; but it can also be made in about 5 weeks, by the quick process by means of generators. In either process, honey-water must ferment, to produce alcoholic fluid, which can be converted into vinegar only by powerful oxidizing agents.

I will speak briefly on the old way, as it is familiar to most of you. You can utilize the washings of honey-cappings, the rinsing of cans, barrels, or waste honey in any form, for the sweetened water. This is put into barrels, with one head out, the wider the barrel the better, as the more air-space the better chance the bacteria have to work, as they need air. You can hasten the fermentation by adding yeast or by acetic-acid bacteria, commonly called "mother of vinegar," and let it go through about the same process as you would for cider-vinegar. Always keep it in a warm place, and covered with a thin cloth to exclude the dust. In about a year the alcohol will be almost worked out, and the oxidation will stop. You will then have honey-vinegar, of grain strength in comparison with the strength of the sweetened water. It is then ready to be barreled and put into the cellar for future use.

The quick process, with which I am more familiar, is one that is hard to explain, on account of the many details and chemical changes that one must understand in order to use the process successfully.

To be a first-class, practical vinegar-maker, one should be somewhat of a chemist. My ability as a chemist being very limited, I will try to tell you in plain terms how The York Honey Co. proceeded.

What first induced us to make honey vinegar was to utilize all waste honey, such as inferior honey, the washings of barrels, tanks and empty cans—in fact, all honey that would otherwise be wasted in the warerooms of an up-to-date bottler and dealer in honey.

In the first place, I took a course of instruction in vinegar-making, under a first-class instructor, standing at the head of my class, also at the foot, as I was the only pupil.

We secured two generators, casks for fermentation, a complete cooper's outfit; a saccharometer, a vinegar-tester—in short, everything necessary to carry on vinegar-making successfully.

A generator such as we used, is a large, open-top, round tank, carefully filled and packed with long, curly beechwood shavings, to within a foot of the top. On top of these shavings is a close-fitting, round distributing-board, filled with many small holes equal distances apart. There are several vent-holes about 18 inches from the bottom, and also a large faucet within a few inches of the bottom. There is a hole about 2 inches below the distributing-board, so the temperature in the generator can at all times be observed. In addition to this, there is a close-fitting cover on top of the tank to prevent the aldehyde from escaping too freely.

The fermenting casks are nothing more than large, open-top, wine-casks.

It takes about 50 pounds of honey to run a generator properly for 12 hours, so we decided to start only one. It takes 1½ pounds of honey to each gallon of water to make a 40-grain vinegar. The proper proportion can be had either by measure or by testing the mixture with a saccharometer.

Forty-grain vinegar means 4 percent of pure acetic acid in the vinegar, or 40 grains of acetic acid to every 1,000 grains of vinegar. Stock tested by the saccharometer, for every percent shown by this instrument you will get a 4 or 5 grain vinegar. It varies according to the completeness of the oxidation. Stock testing 10 percent should give at least a 40-grain.

Having everything in shape, we will proceed to turn the sweetest of sweets into vinegar.

To make stock, the fermenting tanks are nearly filled with water and honey, in the porportion of 1 gallon of water to 1½ pounds of honey. Add to this mixture a specially prepared malt yeast to start a rapid fermentation. (The temperature of the room should be at all times about 70 degrees.) In about a week this will be almost worked out, and fermentation nearly stopped. To hasten the oxidation, the shavings in the generator are soured with vinegar, so when the stock is poured in at the top it trickles over the soured shavings.

Charge the generator every 1½ hours with 6 gallons of stock, having all the vent holes open, and soon the oxidation will start.

The oxidation in a generator creates a damp heat, but it is as true a fire as there is in a stove, and if you keep a stove as a model, and think of the alcohol as your fuel, and the vents or air-holes as the dampers, you will not go far wrong.

Keep charging from the stock in the fermenting tanks every 90 minutes until the shavings are well saturated, and the fluid runs out of the faucet at the bottom. Then let it stand until the generator draws, and warms up. You can tell whether or not it is drawing by putting a candle in front of an air-hole; if it blows out, it shows that the temperature is greater outside than in the generator; if the light is stationary, it shows that the bacteria have begun to propagate and have raised the temperature equal to the outside, and in a few hours you will find that the light is drawn in. Then the oxidation is in full operation, and the temperature inside exceeds that outside. You must then begin to watch at the thermometer hole, near the top of the generator, and when the temperature gets above 85, charge with 6 gallons taken out of the bottom. If there is not that amount, add enough stock to make up the full 6 gallons. In about 2 hours examine the drafts and insert in the air-holes plugs having ¼-inch holes, to decrease the size of the air-holes.

H. M. ARND

During the day take 6 gallons from the bottom and put in the top every 90 minutes. If the charge is short of 6 gallons add enough stock to make up the shortage. Charge 12 gallons at night; and close the drafts; in short, "bank your fire" for the night.

The large vinegar-makers have automatic chargers, and keep it up all night.

Aldehyde is the intermediate composition between alcohol and vinegar; it is a very volatile liquid, and if you are not careful, it will nearly all escape. The weak alcohol is converted into aldehyde by the bacteria, before it becomes vinegar. If you give the generator too much draft, the aldehyde will be lost, so you can see the drafts are as important in a generator as in a stove.

The charging from bottom to top is continued until the vinegar does not gain any in strength; then every other time 6 gallons of vinegar are taken from the generator, and stored in casks for the market.

For every gallon you take from the generator an equal amount must be added at the top, from the stock.

The most profitable and best way is to run the generators in sets of 3, one above another. Start the stock the top of the generator, and by the time it trickles through the 3 generators, it comes out vinegar.

It is very essential that the generators should be correctly packed with shavings, kept perfectly level, and charged with greatest regularity, so that the stock will be equally and regularly distributed. One of the most important things is to keep it drawing, for if the fire gets low, the bacteria, after they have no more alcohol to work on, will turn around and destroy all the acidity in the generator; in the course of a few days putrefaction will set in, and the generator will be dead. It will then take weeks to restore it to its former condition.

Vinegar can also be made by the quick process, in small quantities, by using rolling vinegar generators.

The chemical changes in the manufacture of vinegar are alike in both processes, but in the quick method advantage is taken of the oxidizing action of the vinegar fungus. By vastly enlarging the surface of the liquid exposed to the air, at the proper temperature, we can reduce the time occupied from about one year to 4 or 5 weeks.

At the present price of honey, pure honey-vinegar can be manufactured on a large scale for about 15 cents per gallon, and perhaps cheaper. I have sold honey-vinegar for 40 cents per gallon.

If any present would like to convince themselves that vinegar made in so short a time is first-class I will gladly give them a small sample to take home to try. I am sure a trial will convince them that honey-vinegar, made in the way described, is not only good, but as good as the best.

H. M. Arnd.

Mr. Cummings—Mr. Arnd said in his paper to leave it a year in a barrel. I think that this can be aided a good deal by having the barrel swung, and every time you pass near the barrel, swing it and it mixes it. The air in that way gets in and it oxidizes it more rapidly.

Mr. Strong—I have an uncle in Ohio who, some 20 years ago invented what he called a vinegar generator. This one Mr. Arnd speaks of is what was then known as the shaving generator. My uncle got what he claimed to be an improvement on that. It was simply a series of shelves, raised one above the other, and the fluid was passed over them and exposed to the air. It dropped from one shelf to the other and was continually passing back and forth until it got to the bottom, when it was good vinegar. The strength of the vinegar would depend upon the height of your generator. If it was not long enough it would require passing through again, but the result was good, strong vinegar by the time it had passed through.

Mr. Arnd—That process had the same chemical action exactly. If you put it on shelves or a long trough, or anything else, it would be all the same.

Mr. Hintz—I have had some experience in making vinegar from honey, usually made from washings of the cappings, and I have never succeeded in making vinegar that was good and strong, and which gave good satisfaction to my customers until it was about 2 years old, and now I find vinegar at that age seems to be liked very well—so well that they return and get it a second and third time.

Mrs. Honaker—I believe vinegar made with pickles in small quantities will keep just as long as any other. We make it by putting sweetened water in 20-gallon jars and put a fine cheese cloth over that. We keep them in an upstairs room for about a year, and we have the best luck with it.

RIPENING EXTRACTED HONEY—DIFFERENCE IN QUEEN-CELLS.

"Should extracted honey be further ripened or evaporated by artificial heat?"

Mr. Hershiser—Let the honey stay in the hive until it is thoroughly ripened by the bees. Don't remove it until they get through with it. Only use artificial heat where bottling the honey.

Mr. Lathrop—I agree with Hershiser.

"Before shaking the bees to present swarming, how can a bee-keeper tell the difference between queen-cells, if built under the swarming impulse, or for superseding?"

Mr. Taylor—For superseding they are generally a small number and about the same age, while for swarming there is a considerable number of different ages.

Mr. Rice—I think any practical bee-keeper would know by the strength of the colony. If they are going to supersede, the colony is decreased in number.

Mr. Holtermann—I asked that question. I don't know with any degree of certainty. I consider that a very serious defect in connection with shaking bees, and I came to this convention to try to get some light upon the subject. In going through a large number of colonies you can't very well make a careful examination and find out whether the cells have all got the age before you begin; and as far as the evidence that that colony has depopulated, and so on, I have not succeeded in finding that a satisfactory test.

Mr. Taylor—If cells are built for superseding at swarming-time it will result in swarming. So that I don't see any particular benefit in knowing one from the other.

Mr. Holtermann—If you break down the one that supersedes, you have stopped the superseding.

BEST HIVE STAND.

"Which is the best kind of hive stand?"

Mr. Wilcox—Generally speaking, a stand that will hold 2 colonies, no more and no less, and of such size and shape as you desire to accommodate your hives, and the location of your ground, and so on.

Mr. Holekamp—I set my hives on bricks.

Mr. Wilcox—The objection I have found to that is that moles will undermine one corner and the hive tip over. That is why I want the stand long enough to hold 2 hives.

Mr. Strong—I have an apiary of 100 colonies, and I put 4 bottles under each hive, and that is permanent. They do not freeze or break.

Mr. Hintz—I build a stand for each colony of bees. I take 2x4x18 inches long, and nail strips about 2 inches wide across those, and I set one hive on each stand.

ADVERTISING HONEY—MATING QUEENS.

"What can be done by the National to place honey where it belongs as a food?"

Mr. Abbott—Advertising.

Mr. Wilcox—If we placed it where it belongs we must make extracted honey a staple article. To do so we must produce nearly all well ripened honey.

"I wish to mate queens on a small island, in the lakes, within 4 miles from the shore. Will all the queens mated be absolutely pure?"

Sec. Hutchinson—I should say they possibly would. When I started in to rear queens I had trouble with mismated queens. I Italianized all black bees for a distance of about 3 miles in every direction, and after that there was no more trouble.

Mr. Abbott—I mated Cyprian queens in St Joseph, and in the city I don't think 1 out of 25 missed; and where my bees were in the country, 2 miles out, I don't think 1 out of 25 hit.

COLOR OF RED CLOVER HONEY.

"What is the color of red clover honey?"

Mr. Townsend—The same color as white clover.

Mr. Davenport—A very light amber.

Mr. Hershiser—I would like to know how they know it is honey from red clover. It blooms at the same time as white clover.

Mr. Hutchinson—One fall we had 500 pounds from a second crop of red clover, and there was nothing else at that time, and light amber is the color, or dark white.

Mr. Wilcox—The reason is because red clover does not yield nectar to any extent until the second crop, and the second crop is in bloom in August after white clover is dead, and before buckwheat is yielding much.

Mr. Davenport—I have known my bees to work very largely upon the second crop of red clover, when there was scarcely any white clover in bloom, and the honey they stored in the hives was amber honey.

Mr. Hershiser—In answer to Mr. Wilcox, I would say that the first crop of red clover does yield nectar, but the tubes are so long the bees very seldom get it.

Mr. Stone—I got a good crop of red clover honey one year from the first crop. Until I got Italian bees there was no seed in the first crop of red clover, and after that a good many of my neighbors got as much seed off the first crop of red clover as from the second.

Mr. Hutchinson—When our bees got that 500 pounds of red clover it was all gathered by Italians. The blacks didn't gather a pound.

Mr. McEvoy—I have seen the blacks gather from red clover, but as a rule they don't.

Mr. Townsend—Where I live in Michigan the bees got about 2,000 pounds of red clover honey from red clover alone. This was gathered within two weeks' time, and the color was identical with white clover honey gathered there. I will admit that the color of the white clover honey was not as white as in some other places. I think the color of honey from various flowers varies in different localities.

HONEY CROP INFORMATION FOR MEMBERS.

"Should the National send information from member to member concerning their honey crop, for the purpose of letting members who are short purchase from the ones with plenty of honey?"

Mr. France—Partially that has been done in a private way this season. Several who had more honey than their own market could handle decided about how much they wanted to ship abroad, and made it known to me. I made a table of the list and right opposite I had a list of those who did not have honey enough to supply their customers, and I said, "You go to A.—, he has some honey;" and in that way a lot of the members have been helped through the Association.

Mr. Kluck—I say for one that they should.

Mr. Davenport—I did that last year.

Mr. Abbott—That is what I have been insisting on for the last 5 years, that the National Association ought to be a bureau of information to its members; and every member ought to have a list sent to him so that he would know something about who had honey to sell.

Mr. Moore moved, seconded by Mr. Abbott, that the General Manager be requested, when there is a sufficient number of those who want to sell, and those who want to buy, to make up a circular and send it to the members of this Association.

Mr. Kluck—Our General Manager has always done that. If we would notify him that we have more honey than we can dispose of, he will always find a market for it.

Mr. Hershiser—It costs a very small amount to put a line in a periodical to say you have honey to sell. The Association can't help you do everything.

Mr. McEvoy—Where you don't do that, and send it to the Manager, send 50 cents along to pay him.

Pres. Dadant put the motion, which, on a vote having been taken, was declared lost.

The President suggested that the convention appoint a committee of 3, composed of the members most interested in the matter, to report on the question of amendments at the next meeting.

Mr. Taylor moved, seconded by Mr. Wheeler, that such a committee be appointed.

The President put the motion, which, on a vote having been taken, was declared carried.

The President appointed Messrs. Abbott, Holekamp, and McEvoy as the committee.

QUEENS BY REGISTERED MAIL.

"Is it advisable that we ship our queens in the common mail, or pay a little more and ship them by registered mail?"

Mr. France—The gentleman who asked this question made this reply, that the common mail-bag at many stations is caught from a little post on the swing, and you know what the result would be on those queens. In the distribution of the mail, that class of package is almost invariably thrown into the bags, whereas in registered mail the Government requires that they shall be passed by hand from one to the other.

Mr. Hilton—We had this very question under discussion, and a mail clerk of wide experience tells me almost exactly the words that have been spoken relative to the handling of these cages, and you have only to go into a mail-car to see that this is true. These little bags can be thrown for 10 feet, and they may strike the steel rod or side of the car and then drop in. It will cost 8 cents more to send one or send a dozen by registered mail. The registered mail is not handled that way. It will also take about a day more to get through a registered mail package, because there has to be a record of it made by every official through whose hands it passes, so that it can be traced if lost. I believe queens would arrive in better condition if sent as registered matter.

Mr. Holekamp—My experience has been large. We used to send out every day between 50 and 60 small packages, and we found the registered bees did not arrive as soon as the others. We gave up registering altogether, and we had our packages insured, and we did much better than through the registered mail. I don't believe that registering would help.

Mr. Ferris—I have had a good deal of experience in shipping both by mail and express. I have shipped some very expensive breeders, and my experience is, where you want to get breeders shipped properly, do not have them shipped by express. I have had frames that were 7/8 of an inch thick, and over an inch wide, smashed in two, shipped by express. You can imagine the result with queens.

Mr. Woodman—In registering, don't you have to put the package in another package, and do it up again? How would you supply air there?

Mr. Hilton—We have envelopes of different sizes in which we enclose registered matter. I don't think there is any question about air. They are pretty close when they get in the mail sacks with 150 pounds of mail on top of them, whether in an envelope or not.

Mr. Eidmann—I am in the regular mail service, and I suppose I handle as much registered matter as anybody in the room. In the case of sending one queen the price per registered mail is the same as sending a dozen, or two dozen. In case you send one the postmaster is liable to enclose it in an envelope and seal it, and it will suffocate, while if you have a dozen or larger bulk it will be tied up and a register tag put on. What Mr. Hilton said in regard to the handling is true, but the delay is not as great as most people think. They take the registered mail as soon as it arrives, and it is taken to the next train, providing the connection is too close.

Mr. Strong—I have had experience along the line of sending bees, and I wanted to test this matter of the danger of smothering in the mail. I took a queen I didn't care to keep, and placed her in an ordinary mailing cage. I got a strip of pliable paper about an inch long and wider than the length of the cage, and wrapped it not less than a dozen times around, and folded it down at the ends as tight as I could wrap it, and I threw it into the mail box on the east side of my shop where the sun would strike it. I left it 24 hours, and I then opened it and I expected the queen would be smothered, but to my surprise, there was a lively buzz in the attempt to ventilate—that was all there was. I tried it again and left it 2 days in the same condition, and the sun shone on it all the time; I continued that for a week, and the queen was still in good condition. This shows to me that it is almost impossible to smother a queen in the mail.

FREIGHT-RATE ON EXTRACTED HONEY.

"Can we have a fourth-class freight-rate on extracted honey?"

Mr. France—North, south and west of Chicago the Western Freight Classification recognizes honey in barrels, kegs, kits, and in square cans boxed, or the round package, which I have here, as fourth-class freight. I believe all the associations will adopt what the Central and Western have, as soon as it is made plain.

Mr. Scott—In speaking of rates and methods of shipping, I would like to say something in regard to shipping comb honey. I have had a little experience in that, and my experience has been a teacher, inasmuch as I have paid higher freight rates a great many times than was necessary. I have quit it, and I have succeeded in collecting over-charges on shipments of comb honey instead of letting the producer do that. The classification on comb honey is not so plain, but what it is very often misconstrued by agents at small shipping points. They wish to be on the safe side and they bill it as first-class, when comb honey packed in wooden cases should go as second. That holds good all around, and every way from Chicago. We have been paying first-class rates. If you will notice the marking on your freight bills you will see it was invariably sent as honey in glass. The agents are called upon to do the billing. This ought to be done by the bee-keeper in every instance, and be sure to caution the agent that it must go as second-class. I refer him to the joint inspection bureau at Indianapolis. Mr. Barr, who is a high authority on freight rates, says, that many bee-keepers make a mistake in shipping comb honey with the glass exposed. That was advocated several years ago. The freight-handlers can understand what they are shipping. If you have to put in a claim for broken honey, that is where the difficulty will come in.

Mr. Stewart—I ship considerable honey, and there should be different classifications for shipping comb honey. If you want to get the best classification you want to box your honey and bill it "Comb honey in cases boxed." It will then go as second-class freight, whereas, if it goes without boxing, it will go as first-class. Look into the billing of honeys and you will find in the Eastern Classification different classifications. It makes all the difference in the world whether it is boxed or not.

Mr. Holtermann—In the direction of giving instructions as to the best method of shipping different lines of goods, the bee-papers could do something. We have a Railway Commission to bring our cases before, and their decision is final. They can force the railroad companies to give us a reduced rate if they think it just and right. I was on a committee on that question and we decided the bee-papers could help.

DEFENDING MEMBERS.

"Shall the National Association defend its members when spite is at the foundation, and the bees are simply made an excuse for persecution?"

Mr. McEvoy—Where there is reasonable ground, I think the association should defend him.

On motion of Mr. Kluck, seconded by Mr. Niver, the convention adjourned.

THIRD DAY—EVENING SESSION.

At 7:30 p. m. Pres. Dadant called the convention to order and said: "I wish to thank the convention for the courtesy shown me. I have found the members much easier to manage than I expected. I did my part. I think you will all appreciate the fact that although I am not a very good parliamentarian, I tried to do the best I could. I started with some trepidation, feeling I would not be up to the task, but behavior of the members has been such that it has made it easy and comfortable for me. So I thank you all." [Applause.]

Mr. Putnam then read a paper entitled,

IN WHAT WAY CAN BEE-KEEPERS SECURE THEIR SUPPLIES AT LOWER PRICES?

Coming in contact, as I do, with many thousands of bee-keepers, I am amazed at the indifference displayed by the 99 out of 100 who are attempting to make a part of their living out of bee-keeping. It is variously estimated that from 400 to 700 thousand people in the United States are to some extent engaged in bee-keeping. Of that vast army scarcely 2,000 can be coaxed, entreated or bribed to join a bee-keepers' association of any kind. I have heard our General Manager talk for hours to a gathering of bee-keepers, detailing the benefits to be derived from organzation, and had it not been for the determination of one or two who had originated the movement, the organization could not have been effected.

The first step in the way of lower prices, then, in my opinion, is to awaken interest—to induce the bee-keepers themselves to co-operate. But let us see. What are the conditions? We find that the catalogs read very much alike. Without sections and starters the 1½-story 8-frame hive, nailed and painted, $2.45; nailed only, $2.20; 1 in flat, $1.85; 5 in flat at $1.70; 10 in flat at $1.55; 25 in flat at $1.45 each. The foregoing are supposed to be for retail amounts. The wholesale range is from 25 to 200 hives on a descending scale—50 hives at $1.35; 100 at $1.25; 200 at 1.15 each; and finally the carload price of $1.02 each.

Some dealers put a Chinese puzzle before their quotations, and if you are an adept at rebus deciphering you will make out that A E 5 2 S 8 describes the same articles as mentioned above. One dealer says, "What's the use of all these tables of complicated figures? I will make a flat rate, one hive $1.85, and give the customer a discount of 25 to percent, according to the amount purchased."

Now there is a discount for early cash orders commencing with 10 percent in September and decreasing as the dull months pass by, until finally in March the net price is reached. Some dealers quote a scale of prices 10 cents per hive lower than above quoted, beginning with one hive at $1.75 and ending with 92 cents as a carload price. These are printed prices and the wise bee-keeper knows that all he has to do to get a less price is to write to half a dozen dealers or manufacturers and tell them he will give his order to the lowest bidder, and he will get as many different quotations as he does replies. How do I know? Only last month a reputable firm which turns out $30,000 to $40,000 worth of bee-hives and supplies a year, and which publishes prices at the highest rates, named me a price of 85 cents per 8-frame 1½-story hive, and $2.98 for No. 1 sections.

Only last year, at our St. Louis meeting, I was asked for prices by one of our leading members. I quoted him 92 cents for an 8-frame 1½-story hive, and had the sand taken completely out of me by his firm and positive assurance that my prices were away too high—that he could do very much better down home in York State.

Where is the bee-hive trust? Where is the combination among manufacturers when such a state of affairs exists? Like that other ghost that haunts the path of the poor, deluded bee-keeper—the artificial comb-honey lie—the trust does not exist, or exists only in the imagination of some demagog who is bent on deception and fraud. Nevertheless, the vast army of bee-keepers are paying the long price for their supplies and receiving the short price for their honey; but they are the bee-keepers who do not take a bee-paper, and who do not belong to an organization of bee-keepers; they are the people who wait until the last moment, and rush to the nearest bee-keeper or dealer for a hive into which to hive the bees that swarmed before the bee-keeper thought of procuring a hive.

The vast amount of ignorance in connection with bee-keeping may be illustrated by the true story of the darky boy employed at a dairy, who came to me one September evening about 25 years ago with the news that "Our bees didn't have anything else to do so they thought they would go swarming—yes, mister, they be hanging on a limb waitin' for dat hive." Needless to say he consented to pay $2.50 for a bee-hive—which, by the way, he never did. And this brings me to an important part of my argument.

THE CREDIT SYSTEM.

The present credit system is responsible for a large part of the increase in price. When the elder Root established the mail-order, cash-with-the-order system of supplying this class of goods, it was a cash system. To-day the middle man buys for credit—not 30 or 60 days, but on long time. He will pay the manufacturer for the supplies when he has sold them. Allow me to quote from page 10 of "Collateral on Merchandise Accounts" under the heading of

"PROTECTION OF PROFITS—RISK IN CREDIT."

"Profit is the ultimate object of all commercial enterprise, and a reliable conserver of profits is therefore of incalculable value to general business. As long as goods are sold on credit, the risk of loss through insolvency of customers is constantly impending. The gravity of this risk is appreciated when one considers how little a dispenser of mercantile credit positively knows about the actual financial condition of each of his customers, and the inside facts of their business. And think of how many accounts are outstanding all the time, each involving risk of loss through the incompetence, inexperience, lack of capital, unwise credits, neglect, extravagance, competition, crop failures, strikes, money markets and speculation, which may cause the insolvency of customers. It is not surprising that the losses through insolvency exceed the losses by fire in the United States."

The above refers to general business. The merchants referred to are those of regular trade—dry goods, groceries, hardware, etc.—all of which are rated and reported by Dun and Bradstreet, with whose assistance it would seem that a comparatively close estimate could be made of a man's financial standing. Nine out of 10 of the people who ask for credit as distributors of bee-hives are men without commercial rating. How much more difficult must be the task of the dispenser of bee-hive credits. As the risk increases, so must the margin of profit, to cover the risk increase, so that the fellows who do pay must also pay for the fellows who never pay.

We have here a range of prices beginning with the cash carload buyer at 85 cents per hive for 8-frame 1½-story, and increasing under the varying conditions of credit and quantity until the purchaser of one hive set up and painted pays $2.45, without sections and foundation, or $2.85, complete and ready for the bees. Does it require a Sherlock Holmes to discern the remedy? Organize! Co-operate! Employ the man from New York to do all the buying for all the bee-keepers! Form one vast co-operative association, and every member will get supplies at the lowest rates! It is being done in spots all over the country. Why not let the movement become general? In my locality an association bearing the name of the St. Croix Valley Honey-Producers' Association has 110 members. A 2-leaf circular is the extent of its earthly possessions. The association actually distributed from April, 1904, to May 1, 1905, about $1,400 worth of bee-hives and supplies. The purchaser of one bee-hive got it for $1.02 and freight; the user of 1,000 No. 1 sections got them for $3.00 at any time through the season, local freight added. The officers and managers of that association received the sum of $52 for their year's services. The association produced and sold for cash at the car-door 3 carloads of honey. The manager of the association received $19 for his services in the marketing of honey. The bee-keeper paid the short price for his supplies and received the long price for his product. The same thing has been going on for years in Colorado. The continued success and harmony of the Colorado Honey-Producers' Association is a case in point.

We must not be too narrow in our vision or comprehension. I have shown you the state of affairs as it exists today for the purpose of mutual benefit. There is reason on both sides. The bee-keeper who keeps bees for profit cannot afford to pay $2.85 for his hives. Neither can the manufacturer afford to sell a well-made bee-hive from good material at 85 cents. He does so at a loss, and if all his sales are made on that basis it is only a question of time when that manufacturer will suspend.

By the way, had you heard of the recent advance in the price of shop-lumber? It is getting scarce and now commands a price of $3 or $4 per thousand more than one year ago. Then there are the requirements of standard goods. The lumber must be clear, surface smooth two sides, ⅞ thick. There are only a few mills that saw lumber that will season out and surface two sides ⅞. All St. Croix and Mississippi river mills cut green ⅞, and when seasoned out will barely skin ¾. A large box manufacturer and lumber dealer recently remarked to me, "It will only be a year or two more that you fellows can cultivate that ⅞ fad." It is only the extreme Northern mills that cut for the Eastern market that can supply the full inch shop lumber, and as each mill completes its cut the circle of available material rapidly diminishes, and in consequences the price goes up.

There is no doubt about it—the soft white pine, full ⅞ thick, is the best bee-hive on the market. A bee-hive may be made from clippings and scraps from some wood-pile, scant thickness and mixed quality of material—some white pine, some Norway, some cross-grained, cross-breed material—and sold for less money than the standard goods, but the quality is not there, and in the long run it will be found that the standard goods will out-last the cheaper article.

Nowhere will the well-tried maxim prove more true than in the purchasing of bee hives—"The best is the cheapest."

W. H. Putnam.

Mr. Aspinwall—I note one remark in the paper, that the bee-keepers who are successful have to pay for the ones who make failures, and that have long credits extended to them by a jobbing house which charges for their hives and supplies. That seems to be the rule in every department of human affairs. You and I pay high hotel bills because of the man who uses the soap, and takes the towels away, and breaks things; also the table is extravagantly luxurious probably two or three times more than it need be. There are numerous lines in which the same thing is made to balance the extravagance and wastefulness in all departments. I don't know but that is the only safe way. However, there are lots of things in the article to commend it, notably one, where the Association can buy in large quantities and so purchase at a discount.

Mr. Fred W. Muth then read a paper entitled,

HOW THE PRODUCERS AND DEALERS MAY ADVANCE THEIR MUTUAL INTERESTS

My subject was given me by our worthy Secretary, and, I believe, as a nut to crack; when finished, I will leave you to judge as to whether or not I have succeeded.

As a dealer, I am proud that I am afforded the opportunity to speak to you on this subject, for it is the most important one before this convention, for the reason that it touches the pocket-book of the fraternity.

I will endeavor to give vivid descriptions of some shipments of honey as received; dissect a number of transactions, and show results. Furthermore, I will prove to you that it is indeed necessary for many producers to use better judgment in grading their honey, and also to use better packages, so that their product will command marketable prices. At the same time, however, I will describe to you clearly some nice shipments of honey, and their results.

Some time ago, a party sent us some 20 odd barrels of honey; it was in the month of September. When they arrived at the depot, we were promptly notified by the R. R. Co., of the leaky condition of the lot. Our drayman, accompanied by a cooper, repaired quickly to the depot, in order to get the barrels into shape, so that they could bring them to the store. When the barrels were rolled over the sidewalk, the honey oozed out from between the staves. The cooper attended the packages at three different times, and even then did not succeed in checking all the leaks. Our motto from the very beginning of our business career, has been, "Money back the day shipment is received," and we always adhere to the motto. However, we cannot afford to lose any money on account of another's negligence. We immediately informed the shipper of the exact state of affairs, telling him at the same time that we could not possibly remit for this shipment until after we had disposed of same. We furthermore stated, that, on account of the poor cooperage, and the close margin of profit, we could not do otherwise, but promised to let him hear from us, at an early date. Well, in a comparatively short time, we received a real nice letter from the A. I. Root Co., in which they asked why payment for this honey was withheld, etc., and at the same time they stated that probably the shipment was too large for us. We sold 10 barrels of the lot, which were shipped out of the city. When they arrived at their destination, we received a telegram from the consignee as follows: "Honey at depot all leaking; refuse to accept." We responded promptly by wire, asking him to please accept the shipment and protect our interests. This shipment had been attended to by an able cooper before it left the store, and we fully believed would stand shipping.

Such transactions are not to the mutual advantage of the producer and dealer. The result—no more shipments from this producer, for he really believed we took advantage of him.

Now, then, I call to mind another shipper, who has shipped us no less than 300 barrels of honey to date. When he makes a shipment, he forwards, with the B.-L. a letter, in which he enumerates the barrels, gives the weights, gross and tare, and describes the quality and flavor of the honey with such accuracy that we know exactly how it tastes by his letter. I wish to add here, that his honey is always free from dirt and is well ripened. Frequently his shipments are sold before they reach Cincinnati, for the reason that we can depend upon his weights, and so far there has never been a leaking barrel received. Many of you know this gentleman, he *is* a bee-keeper. Such shipments are certainly an advantage to both the dealer and producer.

Two years ago, I visited a bee-keepers' home, and saw 50,000 pounds of comb honey he had produced that season. He cases his honey immediately, and just as it comes from the hive, making no distinction in the grading, places the good with the poor quality, and, should there be a leaky section, does not discard it, but places it in the case with the honey that is sound and solid. Had he graded his honey carefully, we would have bought the lot on the spot. Besides being interested in the bee-keeping industry, he is a farmer, and, by the way, his farm contains 1,000 acres; he is also an extensive stock-buyer. I know his bees do not receive the attention they should, for his other interests crowd him. At the time, I told him that I would buy his honey if he would grade it properly, stating that it would pay him to do so. He replied by saying that he had no difficulty in disposing of his crop. Right he was. We received several shipments from him, just to see how it would sell, but on account of the grading, we could not possibly pay him the price he could have otherwise demanded. Transactions of this kind give rise to the fact that such shipments are neither profitable to the producer nor the dealer.

About one month ago, a farmer walked into my office, and asked for Mr. Muth. When I had made myself known, he said he had 223 cases of comb honey down at the wharf-boat, and asked what we were paying for good honey. Upon my question as to how it was packed, he replied, "In the caps, just as it was taken from the hive." "Why," I said, "isn't it in shipping-cases like that honey over there?" pointing to some nicely packed comb honey. "No," he said, "it is still in the caps, and when I sell it, I want the caps back, as I thought I could probably make a trade, that would be worth my while." I told him that we made no offers, unless we saw the exact condition of the honey, but if he would name a price that would justify, I would go down to the wharf and look at his lot. I can assure you he startled me when he said, "If you will take the whole lot, and return the caps, I will make the price at 14 cents; that's the price at which fine honey is selling." Of course, I was not interested, and I failed to understand or learn where he sold his honey in our city. I really believe he went on down the river. I leave it to you to form your own opinion of such shipments.

Now, let me relate another transaction with a producer, who understands his business. This bee-keeper wrote us stating that he had some 25,000 pounds of comb honey that graded Extra Fancy, Fancy, and No. 1, and that he knew it would please us, for it was graded according to rules and his best judgment. He quoted a price that met with our approval, and his correspondence was so satisfactory that we immediately came to the conclusion that he was a practical bee-keeper, and informed him that we would accept the shipment at his price, provided he would ship us as a sample a few carriers of each grade, and if the same came up to our expectations, he could expect our order for the entire lot. Promptly we received a shipment of 15 carriers. (By the way, this was the first shipment of comb honey this season).

Right here I wish to relate to you how I disposed of the first cases which I used to feel the pulse of the market. The day this lot arrived, a dealer in bee-supplies and honey from another city was visiting at our store. The 15 carriers, consisting of some 160 cases, were opened, and a finer lot of honey we never saw before. I took one of the cases, told my friend, the dealer, to come with me, and I would show him how to sell honey. Our first stop was at the finest retail grocery in Cincinnati. The proprietor, a fine gentleman, wants only the finest of everything, and is well posted. Passing through the store, saluting the clerks, I was making up my mind as to how many cases I should sell him. "Shall I say 25 or 30 cases?" said I to my friend, "or shall I sell him 40 cases?" I finally concluded to sell him 50 cases and make the price 15½ cents per pound. I walked up to the elderly gentleman, who is always very busy, and business must be done quickly and to the point. I showed him the case of honey: he knew I would offer only the finest. He asked if the lot was all like that sample case. My reply in the affirmative closed that sale of 50 cases at 15½ cents, in less time than it takes to tell it.

When we were again on the street, I remarked how easy it was to sell at 15½ cents, and proposed that we go to another store and try our luck at 16 cents. Well, I did sell 8 cases at 16 cents, and felt that I had not reached the top of the market even at that price. We repaired to the next store, and after quite a bit of hesitation and arguing, I sold another 10 cases at 16½ cents. This price, however, proved to be the limit, for at the next store I tried my very best to sell this party 5 cases at 17 cents, but in vain. He was willing to pay 16½ cents, but no more; sold him 2 cases. Well, in this way, we learn what price the market will pay.

This producer shipped us honey as fast as he could pack it; we forwarded a check the very same day shipments arrived, and in the entire shipment, just think of it, there was not one leaky case! His honey was packed as he stated in his first letter, viz., Extra Fancy, Fancy, and No. 1. The rows in the center of the case were equally as fine as the ones next the glass. This producer is certainly an honor to the fraternity, and if more would follow his example I know there would be less complaints and lamenting about the cheap prices of honey.

Recently, a bee-keeper shipped us a barrel of beeswax at which time he wrote us stating that he knew from past transactions that we would do the right thing by him. The wax was not all choice, but upon its arrival we separated it, allowing him 30 cents per pound for the good quality, and 25 cents for the poorer grade. A few days before I left home, I received a letter from him stating that he received our check for his wax, which was more than he expected. We may also depend upon him for his shipments of honey in the future. It pleases us when a shipper is well satisfied.

Here is another transaction: Recently a party shipped us 21 carriers of comb honey, 12 over one road and the other 9 over another. Never before have we seen honey packed as this was. The bottom of the carrier was the exact size of one case; there was a thin layer of straw, upon which were placed 5 cases of honey, one above the other. This, with 4 sides and a top constituted the carrier, which could be rolled about as a baggage master would handle a trunk.

FRED W. MUTH

The condition in which this honey arrived was most deplorable. Five of our employees worked one whole day overhauling the lot. The fruit of the day's work was a great big lot of chunk honey that we were compelled to close out at 6 cents per pound. Withal, we are still in hopes that the R. R. Co. will grant reclamation, and if they do, we will send the shipper a check in full for his shipment. Now, when we forward remittance to this shipper, we will write him a nice letter, telling him how to pack his comb honey in the future, so that it will stand transportation. I venture to say that our advice will not be received with gratefulness, but probably with scorn. Now, if the bee-papers, which are ever ready to do the individual bee-keeper some good, would print slips teaching the bee-keeper how to prepare both his extracted and comb honey for shipment, using as few words as possible, and enclose one of these slips in each copy of the paper for one whole year, believe me, the benefit derived would be amazing.

And last, but not least, I want to relate a little instance that will close my talk on this subject. Some time ago we opened communications with a producer of comb honey—of whom we had heard, 'tis true, but had never had any dealings with him. Well, he hesitated and procrastinated so long that we finally wrote him stating that he had very little faith in mankind, and that if he didn't trust us, he needn't mind shipping us his honey. He was satisfied with our offer, and decided to favor us with his shipment. Wh he advised us to that effect, he wrote us saying that since we surmised that *he* had very little faith in mankind, he in turn took it for granted that *we* must have a great deal of faith, and he therefore makes bold to ask us to remit for the shipment, upon receipt of the B. L. Naturally, we are adverse to doing business that way, and his statement necessitated another delay.

Again we wrote him that we are honest and trustworthy, and referred him to a number of prominent persons. I don't know if he inquired about us, but we finally received a letter from him in which he simply stated that he shipped us 17 carriers of comb honey, gave us the weights, and requested us to remit him when the goods arrived. His honey arrived in due time and in good condition, for well did he understand the art of packing, and the honey was *very* fine. We could not have criticised, nor even offered a single suggestion. The same day his honey arrived, we sent him a check that amounted to more than he expected, for the honey weighed more than he had stipulated. I know he held his breath when he received his money, for in one of his first letters he blankly stated that he expected to be fleeced. If that gentleman is in the audience, I want him to rise and tell you what he named me after he learned our method of square dealing.

This concludes my speech, if I may so term it, and I trust you have benefited thereby, in learning how the producer and dealer may advance their mutual interests. I thank you.

Fred. W. Muth.

Mr. Eidmann—I wish to say this in regard to Mr. Muth's paper, that I was present at the time that comb honey shipment came from Illinois, and it was just as he stated. I may say Mr. Muth took as good care of the honey as the shipper could have done; he had the shipper's interests at heart. He was not there, but his men were.

MOVED BEES DO BETTER THAN UNMOVED.

"Why do bees removed a considerable distance in spring invariably do better than bees in the same locality not having been so moved?"

Mr. Baxter—I have observed that for 20 years, and those move to out-apiaries have done better than those that had been there all winter. I have been trying to find out how it was, but I can't.

Mr. McEvoy—What time did you move them?

Mr. Baxter—April and May.

Mr. McEvoy—Before fruit-bloom or after?

Mr. Baxter—Before and during fruit-bloom. I moved them from 3 to 5 miles. I have noticed that every year, invariably.

Mr. Stone—I would like to ask Mr. Baxter if he was not a little choice in selecting the bees he moved. May be he took just the ones he knew were very strong and moved them, and then compared them with some that were weak and strong together.

Mr. Baxter—No, sir, I have not. I have taken them on the average, some weak and some strong, but both did better than bees that were not moved.

Pres. Dadant—I have remarked the same thing. I ascribe that to the fact that the bees having been moved are disturbed and more likely to breed, and produce more heat. I do not know whether that is the answer.

Mr. Niver—We found out in New York State that our home-apiary in the village wintered better, and seemed to get pollen in the spring much quicker, than they did in the out-apiaries. We noticed the same effect when we moved them from the home-apiaries to the out-apiaries; they were the strongest and did the best. It was a better place to winter.

Mr. Aspinwall—As the discussion went on it occurred to me that the cause was the same as the President suggested, that they fed themselves with honey which was largely used to secrete the larval food, or food to supply the queen, and egg-laying ensued.

Mr. McEvoy—I was going to remark the same as this gentleman—the jarring and jolting caused them to uncap and prepare a little more; at the same time they are led to stimulate more.

Mr. Wheeler—I have noticed the same thing, but I attributed it to the fact that where we wintered our bees we didn't pay any attention particularly to the flow of honey. It was the most convenient place. When we start an out-apiary we are always thinking about the location, and we are more apt to take them to a place where there are more honey flowers.

Pres. Dadant—In the case of Mr. Baxter, the bees were moved to places where there were other bees, and they did better than the bees that were on the spot.

Mr. Baxter—In some instances I practice the feeding in the spring to stimulate and move the combs as occasion may require, to get as much brood as possible. I have done that in these apiaries from which I have taken these bees, and if it was the result of stimulative feeding, why didn't those bees profit from that stimulative feeding, as well as these that gorged themselves with honey on the trip?

NUMBER OF COLONIES REPRESENTED.

"How many colonies of bees are represented in this convention?"

Mr. France—In regard to the National Association, I have a good many objects in view in the Annual Report to make it of value to its members. One is the crop report, and it is not half completed because the members did not give me their reports. It is not satisfactory. I would like to make these volumes something that you would retain in future years, and care for them sufficiently to bind them.

Mr. Hershiser—Couldn't it be bound better when it reaches the bee-keepers?

Mr. France—Yes, it could. That crop report is of a value that many of you do not know. In Michigan they get up a leaflet bulletin, and that has pretty nearly marketed the honey for Michigan. You get it largely, though, in the rough, and in the full report later on.

Pres. Dadant—I hope the members will bear that in mind, and when they receive the blank from our Manager that they will pay more attention to it. I trust most of you are not among the guilty ones.

SHIPPING COMB HONEY.

"What is the best method of shipping comb honey in less than car lots?"

Mr. Muth—If they are 24-section cases the best method is carriers containing 8 cases each, with straw underneath and handles on the outside, and marked with great big letters, "Handle with care. Comb honey. This side up." You can ship it in that way from one end of this country to the other, if it is done right. Mr. Taylor understands it better than I.

Mr. Taylor—Everybody knows my method. The shipment I made, to which reference is made, I shipped in carriers that would hold nine 24-pound cases; it would hold 3 in the bottom and 2 upon each one of the 3—9 cases. In the bottom I put 3 or 4 inches of straw. I think peastraw is first-rate, if one has it; it is sort of springy and does not pack together so much as some other kinds. Have the carrier so made that it will retain the straw, and then put in the cases upon the straw. I generally have one case at each end that shows the glass a little. I don't know whether that is an advantage or not. I sometimes think it is not. I sometimes think a person handling it, if he sees the glass, may be a little more careful.

Mr. Muth—Right here is a point. The truck man or railroad man just likes to put a foot through it for fun, and then stick their fingers in to taste the honey. Turn it around the other way, and they won't do it.

Mr. Taylor—Then I give directions upon the top of the carrier, "Keep this crate cross-wise of the car with care." That is all there is to it. Putting it cross-wise of the car makes the sections stand lengthwise of the car, so that they will stand a great deal more jolting than the other way.

Mr. Hintz—How do you pack the 9 cases in a carrier?

Mr. Taylor—Put 3 in the bottom side by side, and then upon each one of them, 2; that makes 9.

Mr. Wheeler—Do you put two handles on the side?

Mr. Taylor—The carriers are so made that there is a place to take hold of them. The handles don't stick out on those carriers. If I were making crates or making carriers to ship honey, I would make them so that they would hold 6 cases instead of 9, and be handled more easily, and perhaps more safely. So that there would be 2 piles of 3 each instead of 3 of 3 each.

Mr. Hintz—You have nearly 400 pounds?

Mr. Taylor—No; they would run about 25 pounds to a case; 9 times 25 is 225—perhaps 250 pounds besides the packing.

Mr. Muth—I believe the carriers that contain eight 24-section cases, with carriers all the way through on each side, are more preferable, because two men can handle them better. I remember with one shipment we had to have a strong man go down there and help, and I had to go down, too.

Mr. Aspinwall—I believe Mr. Muth has suggested that the bee-papers send instructions to the comb-honey producer as to packing. How would it do for the jobber to do so every time a letter was sent or received?

Mr. Muth—We are always doing that. We are going to put them in printed form.

Pres. Dadant—I believe a private letter would be read with more attention than printed circulars.

Mr. Muth—Whenever we get a shipment of honey that is real nice, if we can criticise we always try to tell the shipper where it could be better.

Mr. Scott—It might be added to what Mr. Taylor has said, that in making up the crates the slats are always up and down in a carrier crate, and it is just as handy to have this part to which the top of the up-and-down boards are nailed about 8 or 10 inches longer than the crate is to be. That leaves 4 or 5 inches at each end to stick out, and that is suggestive itself to the railroad man to take hold of that. And be sure and mark it comb honey. I was at one time checkman in a freight-house, and when we could see anything of that sort we were in duty bound to caution the truck man to be careful. That does some good in one way, but it is to your disadvantage if you have to collect a claim when the officials come to it. Cheap hay is as nice a cushion as I have ever seen—even excelsior, but it is finer, and the bottom of the crate has to be tight.

Mr. Hershiser—Have you seen hay made into a rope and put around? It is twisted in a rope, and it is more of a springy nature.

Mr. Wheeler—I would like to ask Mr. Muth if he thinks it at all advisable to use packing on the sides and top of the honey, also between?

Mr. Muth—No, sir. Down below only. Then put them close so that they don't jar. Don't show the glass. That is all rot.

Mr. Niver—I found in shipping honey quite extensively in York State that it was very nice to have a large circular printed in large letters to put on top of the case; and the most important thing I have found to put on that case was, "Don't handle on a 2-wheeled truck." That is what breaks more honey than anything else, by tipping the honey. The angle at which it is held is just right to hit the edge of the section, and drive the honey out of the comb. I found that was the main breakage point. Put that label on, and ship them without any carrier.

Mr. Muth—The railroad company will not receive honey for local shipment in single-case lots.

MEMBERSHIP FEES.

Is the acceptance of members at 50 cents, when an association joins the National in a body, fair to the other member who sends his $1.00 in?"

Mr. Muth—Yes. Be grateful.

Pres. Dadant—My impression is that the time is coming when we will get members in no other way.

Mr. Kannenberg—I think the member who pays the dollar has the same chance as the other that pays the 50 cents.

CHANGING FRAMES—LEAVING HONEY ON HIVES.

"Will it pay me to change the Standard Langstroth frame when nearly all of my 200 hives now in use contain the old-style of loose-hanging frames, which are 9⅛ inside?"

Mr. France—I would say no.

"Is honey injured by leaving it on for days after being capped, where extracted honey is taken off?"

Mr. McEvoy—When it can possibly be taken out soon after it is capped, the honey is thicker than if left later.

Mr. Kluck—In a wet fall and cold weather it may do that; in a dry climate and dry weather it won't make any difference.

EXTRACTING FROM SAME COMBS YEARLY—POUND SECTION.

"Is extracting from the same combs every year right? If not, what is the objection?

Mr. Baxter—I say yes, of course, every year. I have combs I have been using for 25 years, and I can't see any difference in the honey. I have combs as black as the ace of spades, and the honey is white.

"Why not have a section that will hold, when well filled by the bees, one pound?"

Mr. Hershiser—Because you can't get such a section. Sometimes the bees will fill a section made to hold a pound, but more often it won't hold quite a pound; whereas, if you get a section a little larger than that, that will hold a pound when not well filled, it will hold more than a pound when well filled.

Mr. York—When you get the bees to put in just a pound, you will then have a section for it.

"How would a section be 4¼ x 5 x1⅜ for holding a pound of honey?"

Mr. Muth—It would be impracticable, because we have so many different sizes of sections on the market, and they are a humbug, 9 out of 10.

Mr. McEvoy—It takes too much wax.

(Concluded next week)

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Variations in Queen Progeny

Is it possible for a queen to produce 2 and 3 banded bees, and also others without a trace of yellow. I have such a colony, and the only queen I have ever found in the hive is a yellow Italian reared in my own yard this season. There can be no old queen, because the colony is an artificial swarm made this season, the bees having killed the queen I gave them and reared this one from brood of an Italian queen I gave them when the swarm was first made. This first queen proved defective, and the one killed was sent me by the breeder to replace the first.

Kentucky.

Answer.—You are very likely counting that when a yellow queen mates with a black drone, the resulting progeny will be midway in appearance between the yellow and the black. Well, to get such a result so that all the worker progeny should be alike in appearance, you would have to work through many generations. The first cross, instead of being uniformly colored with an intermediate shade, will be just what you have found, some copying after the father, with no tint of yellow, some copying the mother, and some with various shadings. In other words, your bees, if a yellow queen met a black drone, have merely followed the general rule. Nor is this an exceptional matter with bees. Look at a cross between a white cock and a dark hen, and see what is the result. Or, if you have no poultry handy, study the human race. If a father has very dark hair, and a mother very light, see if the children have hair all alike of an intermediate shade. Don't you know it's the common thing to say that one child resembles the father and another the mother?

Similarity Between Caucasian Drones and Workers

I sent for 2 tested Caucasian queens, received one Aug. 7, and introduced her to a queenless colony quite strong in bees, and the queen was well received. She must have commenced to lay the same day. That was Tuesday, and when I opened the hive the following Saturday I was surprised to find so many eggs. There were about 5 combs filled with eggs—as full as we usually find them—and in the central combs the eggs had already hatched, showing patches larger than a silver dollar, with this milky-looking food in the bottom of the cells. In due time the bees began to hatch. About two-thirds show the markings of Italian bees, and the remainder are black. Later, when I opened the hive again, I found a large number of undersized drones, reared in worker-cells, marked like the workers, but the blacks are in the majority. But the strangest part about it is, I find the cappings of the sealed brood all flat, not raised or rounded like drone-brood, and I can't tell any difference between drone and worker brood until they hatch.

1. Can such drones fertilize queens?
2. How can such drones be kept from flying, because they can go through the queen-excluding zinc the same as workers?
3. Is this common with Caucasian bees?
4. What would you do with such bees?

IOWA.

ANSWERS.—1. It is claimed that such drones are virile, but I'd rather have drones from eggs laid in drone-cells.
2. I don't know of any way.
3. I think not.
4. I think I'd be likely to pinch her head off.

In spite of your saying the queen was well received, it looks at least a little as if laying workers were present. In order to be sure of no mistake about drones emerging from cells sealed flat, you should be able to see the drones emerge from them. If the queen laid the eggs from these drones, even if she began laying the day you introduced her, Aug. 7, which is not so very likely, especially eggs in such large quantity, the first of the drones could not have emerged before Aug. 31, and some things in your letter, dated Sept. 2, sound a little as if there were drones before that time. If laying workers were present, and if the queen is still there, it is just possible that she is laying all right now. If she is rearing mostly drones, she is no good.

Do Bees Carry Water at Night?

Please tell us what you think about that night shift of bees carrying water, as given by D. J. Pawletta, on page 723. OHIO.

ANSWER.—There have been reports of bees staying out over night, and possibly of their working on bright moonlight nights on basswood, and I don't know just how correct they were, but I don't remember hearing before of their carrying water at night. Of course it is not entirely safe to say a thing is impossible just because it has never come within one's knowledge, but one may at least be excused for being a little inquisitive as to each bee starting the very second her predecessor sets foot on the alighting-board, and never more than one going at a time. Might not more than one bee happen to be on the lookout for the returning bee, and then might not more than one start at a time? and how can one be sure that there is never more than one?

Absconding Swarm

I have kept bees for about 30 years, have read some bee-literature, such as books and the American Bee Journal, for nearly a year, and so have had a little experience with bees, but I have never before met with an incident like I had this summer.

My neighbor caught a runaway swarm of bees which had clustered on the limb of an apple-tree. He hived it in a Langstroth hive, and it seemed to do all right for about 5 or 6 days. The 7th day he thought that one of his other colonies was swarming, but finally discovered that it was the runaway swarm which took its flight to the woods. The next day he saw that the runaway swarm was still at work, but very slowly. He did not pay much attention to this curious action, and never opened the hive until I happened to be there about 3 weeks after the occurrence. He asked me to open the hive and examine the bees. On so doing, I found about a pint of bees, no queen, no brood nor eggs, but found a capped queen-cell.

Where did the bees get the egg in the queen-cell, or do bees ever cap empty queen-cells without eggs in them? or did the queen lay the egg and then fly away to the woods with part of the colony? ILLINOIS.

ANSWER.—The unusual part in the case comes only at the last. The swarm absconded, leaving some bees, and these few bees remained and did the best they could. You say you made an examination "3 weeks after the occurrence." If that means 3 weeks after he hived the swarm, then there is nothing particularly unusual in the whole case. I suppose, however, that you mean 3 weeks after the swarm absconded, during which 3 weeks there was, presumably, no queen in the hive. Here, then, was a sealed queen-cell 21 days after the departure of the queen, and any well-conducted virgin should emerge from a queen-cell within 15 or 16 days after the laying of the egg. You ask whether bees ever cap a queen-cell with no occupant. I never heard of such a thing, but why in the world didn't you open the cell and see what was in it? It is practically certain that the cell was occupied. A laying worker may have laid the egg before her departure. Dzierzon reports a case in which the bees held eggs a week or so without hatching, and I have seen unsealed brood in a hive more than the normal 8 or 9 days after the removal of the queen. Another solution of the problem is to say that the queen-cell was started in the ordinary way, and the larva died in it after the sealing. So there are 3 different ways in which it might happen that you found a sealed queen-cell 3 weeks after the queen had left.

Removing Supers in the Fall

I am 25 years old and have been keeping bees for 6 or 7 years. My father is a farmer. This is not a very good country for bees. I don't think they did very well last year, and this year they are no good. They had more honey in June than they have now. Some have honey in the super, but the brood-chamber is dry comb with brood. But I will try to feed them up heavily this fall. I would like to take off all the supers now and let them work only in the brood-chamber. If I do take them off, must I watch for the moth-worms, or don't they work in September? I have been bothered with them this summer.

MISSOURI.

ANSWER.—There is not very much danger of trouble from bee-moth in supers taken away in September, in your part of the country, especially the latter part of September; but it is well to look over the combs perhaps 2 weeks after they are taken off, and if you find the worms at work, to fumigate them with bisulphide of carbon, or sulphur. This is on the supposition that your supers contain extracting-combs. There is less danger if the supers contain sections, but even then it will be well to take the same course.

Queen's Eggs that Fail to Hatch

On June 9, after destroying the old queen in a strong colony of bees, I gave them a ripe queen-cell enclosed in a cell-protector. I examined them 12 days later, and found the young queen laying nicely. Three weeks later I examined them, expecting to find brood hatching and in all stages of development. Imagine my surprise when I found nothing but eggs, which were laid regularly and only one in a cell. The queen was a nice yellow one, good size, and with perfect wings. I have examined them at intervals of 2 and 3 weeks since then, and have found nothing but eggs and no brood at any time. They have dwindled down to a few bees. There are eggs in the hive at present, but no brood. I've been taught that a queen's eggs will hatch drones whether she is fertilized or not. This queen's eggs don't seem to hatch at all. What's the trouble?

1. Is it possible for a queen to lay eggs that will hatch neither workers nor drones?
2. Have the bees been destroying the eggs as fast as they hatch?
3. Is the queen worthless, or will she turn out all right later on? OHIO.

ANSWERS.—1. Yes, the case you mention is one, and I had another case. Other cases have also been reported. But you're not likely to meet another of the kind if you die within a reasonable time. The case that came under my observation is the only one I ever met in 45 years' experience.
2. No, the workers are probably not in the least to blame. I don't know what the trouble is, but there is some defect about the queen that prevents even drones being reared from her eggs.
3. Worse than worthless. Please send her to Dr. E. F. Phillips, Department of Agriculture, Bureau of Entomology, Washington, D. C. Possibly he might give us some light on the subject.

Non-Swarming Methods and Bees

1. In the 1895 April Bee-Keepers' Quarterly, Mr. Heddon says that out of 600 of his colonies only 15 or 16 percent swarmed, as by his hive and methods he weeded out the swarming impulse. Would not such methods be advisable for comb-honey producers in Northern Michigan?
2. One of my neighbors, by cutting out queen-cells every 8 days in the Heddon hives, in Hoffman frames, got as high as 250 pounds of comb honey per colony. As inverting the Heddon hive is claimed will cause the bees to destroy queen-cells, would not the use of such a hive be less labor for the practical comb-honey producer? Will interchanging such hives cause bees to destroy queen-cells?
3. As Mr. McGuire, of North Carolina, claims black bees there will swarm hardly any, would not the introduction of such a race early in the spring solve the non-swarming problem in the Northern Michigan raspberry regions, and be a boon to comb-honey producers there? With such a strain I could, in a good season, obtain 100 pounds of comb honey per colony without Mr. Davenport's splendid method.
4. What makes the bees up here swarm so much that Carniolans can't excel them? They are Italian-hybrids in Hoffman frames, in double-walled home-made hives, twice the thickness of the fine factory hives. The bees increased rapidly in the spring, but blasted our hopes of a honey crop by persistent swarming. Would not pure Italian or pure German bees be a better non-swarming strain?
5. Am I not correct in believing that more comb honey can be gotten from the brown German strain here than from the Italians or hybrids?
6. Are bees in the Michigan raspberry regions more prone to swarm than in more southern cultivated regions.

NORTHERN MICHIGAN.

ANSWERS.—1. Any method that would weed out the swarming impulse would be exceedingly desirable in Northern Michigan, or anywhere else for producers of comb honey, or indeed for producers of any kind of honey. So long as there is variation in the matter of swarming, some bees being much more inclined to it than others, it does seem an impossible thing to produce bees that would be practically non-swarmers. At least, it ought to be possible to come as near to non-swarmers among bees as to non-sitters among poultry. It is not likely that the hive would make much difference, any farther than to give plenty of room and ventilation. The chief thing to do is to breed constantly from stock that shows the least inclination toward swarming, at the same time keeping in view the avoidance of the things well known to favor swarming, such as crowding and lack of ventilation.

2. Some years ago there were great hopes that the bees could be induced to destroy queen-cells if once in so many days hives were turned upside down, and reversible hives were invented for this purpose. But it turned out that the plan was not reliable. Indeed, it is found that even if reversing would cause the destruction of queen-cells, this would not be a sure preventive of swarming, for when the attempt is made to thwart the bees by cutting out all cells, they will in a good many cases swarm without waiting for cells.

3. Some black bees will swarm less than black bees in general, and some Italians will swarm less than Italians in general, but if ever a non-swarming strain worthy the name is attained it is more likely to be Italian than black. Among Italians there can be found bees just as little given to swarming as among blacks, in all probability, and as Italians are in general better bees, they are the ones to work with in aiming toward non-swarming. If you are aiming for that 100 pounds of comb honey per colony in a good season, you will probably reach it more quickly with Italian blood. At any rate, it is no great trick to reach it here with Italian blood predominating, and Northern Michigan is supposed to be a good deal better honey region than this.

4. I don't know what makes some bees swarm so much more than others; I only know the fact. Evidently you have bees that are bad swarmers. The introduction of pure Italians, or of pure blacks, would be likely to reduce the amount of swarming, and the introduction of a good strain of hybrids or crosses might reduce it just as much. The advisable thing for you is to introduce pure Italian blood. After you've done your best in that direction, you are likely for several years to have still more or less black blood.

5. I don't know all about your locality, but my impression is that in almost any locality, if not in any locality, Italians will outstrip the blacks in honey, and if rightly managed it is possible that a cross of Italian and black blood may give more honey than either blood pure. But I would try as much as possible to work toward pure blood.

6. I don't know. I think not; but it may be that some one with experience in the northern raspberry regions, and also farther south, will tell us about it.

May be the Bee-Moth

I have had only 2 years' experience with bees. I like the work, but find very little money in them so far. I have 5 colonies. They have cost me about $50, and have gathered but 20 pounds of surplus honey in the 2 years. I have a colony of black bees that I gave an Italian queen about 40 days ago. I see now they are busy carrying young ones out that are nearly old enough to fly; some dead, and many alive. Upon examination, I do not find anything like foul brood, but the colony has weakened one-half, and is gathering very little nectar for brood purposes. Kindly explain matters. Missouri.

Answer.—I don't know with so little information, and can only guess. You are doubtless right in thinking there is no foul brood in the case, for in foul brood young bees dead and alive are not carried out of the hive, the larvæ dying in the cells and rotting there. It is likely that the bee-moth is the guilty party. The colony has probably been weak, and the larvæ of the bee-moth have made their galleries through the cappings of the combs, mutilating the young bees so that they are carried out by their older sisters. If my guess is correct, you ought to be able to see upon inspection the said galleries or webs. It will help somewhat if you will dig the worms out of them. With a wire-nail or other pointed instrument, dig into one end of the gallery, then beginning at the other end dig along till the worm comes out where you first began, when you may take your revenge. After a fair number of Italian bees have taken possession, you may safely trust them to keep the moth at bay. If wax-worms are not present, then I don't know what the trouble is.

Heat Breaking Down Combs of Honey

My bees are doing nicely now, but I have trouble with combs of honey breaking and dropping down, caused by the heat. I have covers on all the hives, but the sun strikes the hive front. Is there any remedy for this?

Illinois.

Answer.—Most likely the trouble is all over before this, for by the time your question reached me, a sudden change in the weather made it almost too cold for bees to fly at all. Yet there was some very hot weather in September, and combs might break down from it if they ever broke down from heat. Certainly they ought not to break down from the sun striking on the front of the hive. I'll venture the guess that they would have broken down if the sun had not touched the front of the hive. The probability is that two things were responsible for the trouble. One was that the entrance of the hive was too small, giving the bees too little chance for ventilation. The other was that there was too little chance for circulation of air about the hive, buildings, trees, or bushes preventing a free movement of air. Years ago I had combs melt down in a hive—I think I never had them melt down in any other case—and the sun never shone on the front of the hive, nor on any other part of the hive. The hive stood in a very dense shade, a thicket of bushes on one side, and tall corn on the other. The entrance was not very large, but I think the combs would not have melted if the hive had stood out in the sun all day long, provided there had been full chance for the breeze.

Wintering Nuclei Over a Strong Colony

1. Can a nucleus be wintered on top of a strong colony by placing a queen-excluding board between? That is, put two or three 1 or 2 frame nuclei in a hive and put it over a strong colony with plenty of honey?

Nebraska.

Answer.—1. I don't know that any one has ever tried exactly the thing you mention. Something like it is done in the Alexander method of putting a weak colony over a strong one in spring; but in that case it is not continued more than 3 or 4 weeks. If continued through the winter, it is very likely there would be more or less loss of queens. A safer plan would be to use wire-cloth instead of a queen excluder, so that there would be no communication between the bees below and above. Of course an entrance to the outside would have to be allowed to each of the nuclei. If outdoors, these entrances should be very small, and the entrance to the lower colony would need to be less than with no entrances above.

That Lapse-of-Memory and Bee-Sting Case

As a further contribution to the lapse-of-memory case, on page 759, I am glad to give the following note from Dr. Davis R. Emmons:

I have read with interest your answer in the case of the bumble-bee sting on the ear. I wish to compliment you for the manner in which you sum it up, and certainly in writing for publication in a bee-paper it would be very hard to improve upon. However, in private it looks to me as if the poison, diluted and in small quantity, had in some way reached the brain-cells that have to do with memory. I think that a few of the small branches of both the posterior and anterior auricular arteries pierce the cranium, but ordinarily in this case it would be returned to the heart through the lateral sinuses without entering the brain. In exceptional cases, however, I think it would be possible, and I can but think that this has taken place with the young man. The paralyzing effect of formic acid may have quickly closed the capillaries in the natural channel, thus forcing it into some unnatural course.

Of course, this is only theory, and intended as pleasant discussion.

Davis R. Emmons, M. D.

This view may be entirely correct, the only thing to which exception should be taken is that Dr. Langer's investigations show that the active poison principle is something separate and apart from formic acid, and, if I am not mistaken, alkaline. That, however, makes no material difference in the case.

Frame-Spacers—Best Size of Section

1. When I started my apiary, 2 years ago, I bought 5 Danzenbaker hives, but after one season's use I considered them too shallow, for the bees carried too much propolis into the sections; moreover, I consider it unnecessary labor to handle 10 frames when an 8-frame dovetail hive contains the same comb-space. I had the good fortune to sell the hives and replace them with the 8-frame dovetail hive with Marbach-Hoffman frames. Do you consider these Marbach metal-spacers preferable to the V-edge? The reason why I ask is, because I intend to buy more hives soon. I find in using the metal spacers that the bees always fill with propolis the space beneath the tin, and I have wondered whether the self-spacing V-edge (which I never have used) would not save the work for the bees, and at the same time answer my purpose as well.

2. What do you consider the best size section? I am using the 4x5 plain section, because I thought the bees more likely to begin work in them than in those of smaller size.

Subscriber.

Answers.—1. The chief objection to the Hoffman frame is the amount of surface in contact between two adjoining frames, the greater such surface the greater chance there being for bee-glue and for killing bees. The Hoffman was considered an improvement on the closed end frame, because only part of the end-bars came in contact, instead of having the end-bars touch throughout their whole extent. It may be said in passing, that notwithstanding the objection to having so much surface in contact, some still prefer the closed-end frames because of the indisputably greater warmth. The first Hoffmans had not only the end-bars touching, but quite a space of the top-bars, and it was an improvement when they were made with only the end-bars touching. It was counted a still further improvement when one shoulder of the end-bar was cut to the V-form, both because there was less impinging surface, and because the sharp edge would cut its way into the bee glue when the frames were crowded together. Some, however, think the square shoulder better than the V-edge, as the bees have only the greater temptation to fill the angle with glue, and there is a greater tendency on the part of the sharp edge to split off. The Marbach metal spacer is an improvement, because anything that makes the point of contact less is an improvement. Whether it will prove as great an improvement as anticipated, remains to be seen after the bees have had a chance for a few years to get in their work at gluing, for where the space is less than ¼ inch it will be glued up. Even after the bees have done their worst it will be an improvement.

Whatever the difference between the two kinds, there is still greater difference between the better of the two and the simple metal spacers used by myself and others. The smaller the point of contact the better, so long as it is not small enough, or sharp enough, to force its way into the opposing wood. That metal spacer is nothing more nor less than a common wire-nail, rather heavy, 1⅛ inches long, with a head something less than ¼ inch across, and galvanized or rusted, so as not to be smooth enough to be crowded farther in when the frames are crowded together. One of these is driven into the top-bar at one end, and another within 2½ inches or so of the bottom end of the bottom-bar on the same end, and the same thing repeated on the other side of the frame at the opposite end. A guage is used to drive the nails in to exactly the right depth, but in Europe thousands of such spacers are in use with heads of such thickness that they may be driven in the correct depth automatically. After using thousands of these spacers for a number of years, I am more pleased with them than ever, but if I had it to do over again, I would try very hard to get the automatic sort of nails. You may ask why such nails as spacers have not come into use more generally. I think the chief reason is that manufacturers and dealers object that the nails will be in the way of the uncapping knife. But what difference does that make to those who work for section honey entirely? Neither ought the nails to be so much in the way of the uncapping knife, as they are only at one end on each side.

2. There isn't really such a great difference in the matter of size of sections, and I am somewhat skeptical as to their being anything better than the kind most generally in use, the 4¼x4¼, although I have tried the other kinds, some of them on a pretty large scale. I doubt the correctness of your idea that bees will begin sooner in a 4x5 section. The width of the two is about the same, and if the bees begin building at the top, as they always do, they must begin in the taller section farther away from their previous work than in the one ¾ inch lower down. Looks as if they would prefer the one that allows them to start their work the lowest down, doesn't it?

Hive-Ventilation in Moving Bees—Entrance-Blocks—Thin or Extra-Thin Section Foundation

1. What is the highest temperature that you consider safe in moving bees without ventilation? Say that you had to move them when the thermometer stood at 50 degrees, how much ventilation would you give?

2. In making the entrance-blocks, as described on page 47 of your "Forty Years Among the Bees," would it not be better to make the entrance with two spacing nails on one edge of the board instead of cutting the notch?

3. Do you use thin surplus foundation, or extra-thin, in the sections? I think the question is not answered in your book.

Illinois.

Answers.—1. With the thermometer at zero it might be safe to move bees without ventilation, but even then a strong colony might be the better for it, for the moving would be likely to stir them up to so much action that they would need fresh air. When I move my bees in fall and spring, they have no other ventilation than that afforded by the entrance covered with wire-cloth. But then my entrances are 12x2 inches. Still, when I had entrances 12x⅜, years ago, that was all the ventilation they had, and the temperature was sometimes a good deal above 50 degrees. So I would feel safe in saying that at 50 degrees I would allow a ventilating opening of 12x⅜, and perhaps half as much would do.

2. One of the sad things about writing a book on bee-keeping is that by the time the ink is dry some of the things in the book are not true. I don't use entrance-blocks such as described in the book you mention. Unless wedged in *very tight*, there was danger of the blocks falling out of place, and if wedged very tight, the sides of the bottom-board were crowded apart. So this year I used an entrance-board of the same size, only ¼ inch thick, being held in place by a small wire-nail at each end driven through the board into the front of the hive, but only partly driven in, so as to be withdrawn easily. Your question, however, has nothing to do with that. You want to know whether, instead of having at one lower corner a hole an inch square, it would not be better to have a shallow space extend the entire entrance. The chief idea of that 1-inch hole probably was that there was no danger of its being clogged. If the entrance ran the width of the hive, it would hardly be less than ¼ inch deep, making the opening amount to 3 square inches, or three times as much as the 1-inch hole. That lets in more cold air than we care for, and yet there is some danger of clogging, with no greater depth. You will see that the square hole allows the smallest entrance without danger of clogging.

3. Thin. I'll tell you why. The best I can do, there will be times when sections are on and the bees are not working in them. It may be before they begin work, or after the harvest has closed, or a few days lull in the middle of the harvest. At such times the extra-thin foundation is likely to be gnawed down in a very unpleasant way, and they are not so bad on the thin. If you don't have the same trouble, you will wisely use the extra-thin.

Reports and Experiences

Swarm That Staid Out Long—Poor Season

I had a similar experience to that of No. 3, on page 705. A swarm came out with a clipped queen and clustered somewhere in near-by timber, where I could not find them, and it was about an hour before they returned. They were gone so long that I had given up all idea of their returning. I have concluded that the farther they go from the hive to cluster when the queen is not with them, the longer it will be before they become satisfied that their queen is not with them. As to why they gave up the idea of swarming, probably it was that when the queen was returned to the hive there were so few bees left in the hive, or with her, that they made no objection to her destroying the queen-cells, and before the swarm returned, the work of destruction had been completed.

It has been a poor season for honey here. Basswood, from which we got most of our honey last year, was an entire failure this year—not a blossom to be found, owing, doubtless, to late frosts. White clover was abundant, and the colonies that were strong in mature bees did well. I extracted 115 pounds from one colony, and 114 pounds from another, but about ⅓ of them have stored no surplus.

Until June 10 it was very cold, rainy, cloudy and windy, so that colonies, unless they were very strong in the spring, failed to rear sufficient brood to be in condition to take advantage of the white clover harvest, or else spent their strength in swarming. It has emphasized anew the importance of getting all colonies strong before the honey-flow begins.

There are 35 acres of buckwheat one mile from here, and for 2 or 3 hours in the morning the bees are now (Aug. 17) working briskly upon it.

From 75 colonies, spring count, I have extracted 2200 pounds, and taken off about 250 pounds of comb honey. The colonies that did the best were the ones that did not swarm.

J. Ridley.

Monticello, Minn., Aug. 17.

Queen-Rearing Years Ago

There is a little honey coming in gradually. There has been a great deal of honey-dew this year. When I used the box-hive I reared some queen-bees by having auger-holes in the side of the hive and a piece of comb in a little box fastened over the hole, and when they hatched out some of them would run in the box; then I would listen, and when I heard one piping in the box I would take it out. This I did in time of swarming, and when I introduced a queen I made a box like a gum, with a hole in the top, and placed the introducing cage, with a queen-bee down through the hole, and when the first swarm came out after a few days I moved the old stand off a little piece; then I put the box on the old stand; then some of the returning field-bees would cluster on the cage; some of them would stop a while and then go to the old hive, and when the caged queen came out she was introduced to the field-bees; then she would take the cluster of bees and follow them in the old hive and lead out a swarm of bees, or else she would drive out another swarm. Then she would swarm, which made 3 swarms in all.

I produce two kinds of honey—what I call tame honey and wild honey. Tame honey will granulate, but the wild honey, which is gathered from flowers, does not. The colony that I have run for tame honey since July 12 has stored 40 pounds. If I did not close down on the bees, they would never swarm.

Some of the people around here say their bees have not swarmed yet this year. I have nothing on the place that has a hoof. My failure was because I could not have field-bees enough in one colony, so I used an extra one for brood, and now I have 5 instead of it, and I got 2 takes of honey from it.

James L. A. Miller.

Rosebud, Mo., Aug. 14.

Rather Poor Season—Weak Colonies Over Strong—Swarming, Etc.

The American Bee Journal is a great help to the bee-keeper in many ways. One gathers a wonderful fund of knowledge from what others are doing in the business, through this medium. For this reason it is indispensable to the bee-keeper. I consider it a great aid to one, even if he has but a single colony of bees.

The season in this vicinity has been rather poor, although enough honey has come in from white clover to assist the bees in building up strong, and causing swarming. As yet we have not taken off any surplus, and I think it doubtful if we will get any at all, as it is now August. Our surplus usually comes from heartsease, and that is at its best this month.

As I wrote a year ago, I had 12 colonies to put into winter quarters. In the spring I took out but 8, 4 having died from lack of stores and the dreaded disease—foul brood. With the assistance of an expert I have gotten rid of foul brood, and am getting some new queens. I now have my bees in good shape for the fall flow of honey, if any comes.

I now come to a matter of much interest to myself, as well as to others: How to strengthen weak colonies in early spring by putting them on top of strong ones, with an excluder between. I did this with 2 or 3, and lost in every case. That, in my judgment, is an error, as it is a fact that, after you have done this, if the nights should turn cool the bees will go below and leave the queen, which cannot pass through the excluder. By following these suggestions I lost some valuable queens. A bee-keeper never knows what he can do with some of these new suggestions until he tries.

I also tried to prevent my bees from swarming by tiering up one story on top of the others—by taking brood-frames from below and putting in the top story—practically making 2 colonies from 1; however, never doing this with any bees unless they showed indications of swarming.

In the early spring I bought sweet clover seed and scattered it broadcast from the hand along the roadsides, thinking that was the way to do it, and not one kernel came to gladden my vision. What must one do to have it?

Alfalfa is said to be a great honey-plant. My experience is that it is practically worthless, for this reason: Just as soon as it begins to bloom the owner goes into the field with his mower, and, of course, in that way the bees get but little honey from it; and, as a matter of fact, in our locality, if we desire to be successful in a honey-yield, we must provide some other plant for forage. What shall that be? PHILLIP MOHLER.

Lincoln, Nebr., July 31.

Finding Bees in Trees

"Missouri," on page 601, wants to know how to find bee-hives in the woods. As the question was left unanswered, I will tell all I know on the subject.

If we know that there are "wild" bees somewhere, the first thing to find them is to know the direction as near as possible where they can be found. Different methods can be used to mark the direction, when honey-bees live in trees.

An easy way to find at least an approximate direction of wild bees is when you have a field of flowers, such as white clover, alsike, etc., which are sought by bees numerously. On a day when there are no clouds that cover the sun, wait until the sun is sinking in the west, then go to the east side of the field, where you can look all over the field; looking in the direction of the setting sun, you can see bees flying to their home, even at a distance of 200 yards. You need not waste much time for this. You can see dozens of bees leaving the field in a few minutes, and before they are out of sight you know the approximate direction they take. If you see a bee leaving the field right straight, without flying in a circle before leaving, you can judge for sure that the "hive" is near the field; but if a bee flies about 3 circles before leaving, you can judge that the "hive" is not nearer than about one mile. This is in accordance with my own experience, but I had no chance to use it often; however, I was successful with it twice.

Further, every bee-keeper knows that bees need a daily supply of water, and to obtain it they are often found gathering water from some flowers sparingly, even where the ground is only wet. Now, if you once know that there are bees in a certain direction somewhere in the woods, proceed to find their watering-place. You can do this best during a drouth, when they can get water only at certain places. If you find their watering-place, you can be almost sure to have success. If you go around the woods during a dry spell, and you find a place suitable for a watering-place for bees, but no bees gathering any water there, be sure no bees are near.

There are still other methods employed in hunting for "wild" bees, but I suppose these two are the easiest to be used, and they cost only a little time, and under favorable conditions a lot of fun, honey and bee-stings.

Should "Missouri" profit by observing these hints, I would like to have the "fun" of hearing of his success. INDIANA.

"Hybrid" as Applied to Bees

Hybrid—an animal or plant produced from the mixture of 2 species.

Bee—a 4-winged insect of the order Hymenoptera, and family of Apis. There are many genera and species. The common honey-bee is the Apis mellifica, and lives in swarms, each of which has its own queen, its males or drones, and its very numerous neuters or workers. Besides the Apis mellifica there are other species of honey-bees, as the A. ligustica, of Spain and Italy; the A. unicolor, of Madagascar and Mauritius; the A. indica, of India; the A. fasciata, of Egypt; the A. Adansonæ, of Senegal, and others.—NOAH WEBSTER.

If the common or black bee belongs to the species mellifica, and the Italian bee to the species Apis ligustica, then a bee produced by a mixture of the two is plainly a "hybrid." It is "up to" those who claim that the bees produced by this mixture are not hybrids, to show that the black and Italian bees belong to the same species, or to furnish some other reason why such bees should not be called hybrids. I, like a good many others, have been calling them hybrids, and I want to know the extent of my offense.

The honey-flow is at an end here, and attempts at robbing are very easily provoked.

Leon, Iowa. EDWIN BEVINS.

P. S.—On further thought, there is nothing "offending" in speaking of a mixture of Italians and blacks as "hybrids." In so speaking, we simply give expression to a scientific fact. The trouble seems to be that there is no short word that can be used in this connection which clearly indicates the parentage of the mixture. The word "mule" does this in the case of another mixture, but there is no word yet found which performs the same office for the product of a mixture of black and Italian bees. I think a reward will have to be offered for such a word. E. B.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

BEES OF THE ORIENT.

So Frank Benton finds no bees worth bothering with anywhere in Central Asia; but he is giving some attention to 3 different species in India, preparatory to deciding whether we want them or not. Page 634.

HONEY-YIELDS IN ARIZONA.

The Arizona Experiment Station certainly has a daring mathematician to make its honey estimates. All the same, we like him. Pleasant change to read something definite in the place of utter indefiniteness. Alfalfa, 55 pounds of honey to the acre—the acacias, a third of a pound to each big bush—mesquite, 2½ pounds to each tree. Incidentally, we get the size of Arizona vegetation; and that's *reliable*, I reckon. Page 638.

SUGAR NOT BAD FOR THE TEETH.

Glad to hear Dr. Eaton say that it's probably a mistake about sugar destroying the teeth. An argument he uses is pretty pat. Darkies who live largely on sugar-cane, cane-juice and molasses, have excellent teeth. I would add the suggestion, that the craving for sweet, and the bad teeth, are quite likely two separate results of the same morbid cause. By a misinterpretation, the conclusion has been drawn that the sweets consumed caused the bad teeth. In other words, Nature is giving a remedy for a disease, and the doctor forbids and prescribes the contrary. Old, old story of medical foolishness! Page 639.

WEAK COLONIES OVER STRONG ONES.

No, Mr. Oliver, I didn't mean any disapprobation whatever. Lots of old stagers are experimenting at keeping weak colonies warm over strong ones. I should club them, if anybody, rather than the beginners; but there's no call for clubs to be thrown at anybody. Page 643.

BARRELS FOR HONEY.

C. P. Dadant likes barrels for storage—and yet hear him: "Whatever you do, by all means avoid *cheap* barrels, for they will leak all summer, and will waste honey until the honey is granulated." Page 657.

CUTTING CELLS TO PREVENT AFTER-SWARMS.

And E. J. Cronkleton thinks cutting cells to prevent after-swarms is better practise if done *immediately*. Then no rival parties can be formed awaiting the exit of different queens. Sounds like good sense. Page 658.

IDEAS ON WAX-EXTRACTION.

I wonder if the Bartz idea about wax-extraction is practical. Each cell of pollen in an old comb is a lump of definite size. The idea is to crush and rub up the comb very thoroughly and sift out these lumps with a sieve of properly sized mesh. The lumps and the finer matter are then to be separately treated. There appears to be an evident advantage in this; and yet the test of considerable actual practise is needed to tell whether it is worth while. Page 662.

REQUEENING EVERY YEAR (?).

So Dr. Phillips gives the weight of his approval to the idea of young queens in every colony — renewing every year preferably. Page 664.

SELECTION IN BREEDING FOR EGGS IN FOWLS.

Interesting to see what selection does for other creatures than bees. A lot of fowls averaged 120 eggs per year. Their descendants were made to average over 200 in a few years by breeding for number of eggs alone—that is, choosing freely those most out of style in looks and points, if only the number of eggs was greater. Page 665.

DISCOVERIES CONCERNING FOUL BROOD

Almost startling that the Washington authorities find *Bacillus alvei* present in black brood and absent in foul brood, so far as the samples sent in go. Let's be in no pickle or haste, but it looks a trifle as if our previous teaching might in the end require a serious tearing up. And Dr. Phillips even suggests that Europe and Canada *may* have one foul brood, and the United States a different one. Page 668.

CANADIAN BEEDOM

(Continued from page 832)

be about 30 pounds of stores to carry them safely through to the next honey season.

To make doubly sure, we store in a dry, *warm* place combs of sealed honey, about one for each hive, to be put in the brood-chambers as soon as convenient after they are removed from winter quarters. It is particularly important to have these extra combs in a *warm* place, to avoid granulation.

Extracting and Migratory Bee-Keeping

Our extracting was practically all finished Friday night, Sept. 14. Buckwheat honey averaged up about as well as last year, and so removed the danger we feared of an almost total failure of the 1906 honey crop.

Migratory bee-keeping involves all sorts of experiences, some pleasant, and some quite the opposite. Last season we extracted a part of the surplus of one yard in a tent. There were no trees for shade, and when the sun shone, that tent would have made a splendid solar wax-extractor—almost. The robber-bees found the ins and outs so well that after a few days the machinery was moved to a bee-tight workshop, half a mile away, and the balance of the supers hauled there to extract. It is a splendid idea to start the final extracting before the bees have finished gathering honey. Then robbers do not bother, and what surplus is gathered after the supers are off will help out nicely on winter stores.

This year, one yard had to be extracted in the basement of a bank barn. The stone wall kept it cool, to a certain extent, so that even in extremely hot weather it was possible to keep all windows and doors closed so the smell of the honey would not escape and attract the bees. When we got near the end, and the robbers became pretty lively in the yard and began hunting places to crawl through the stone wall, the extracted supers were all piled out where the bees could go at them freely, and clean up the honey left by the extractor. This gave an artificial honey-flow, and kept things fairly quiet until we could finish up.

To Buffalo, N. Y.,
and return, via Nickel Plate Road, at $13.00 for the round-trip, from Chicago. on October 10th, 11th, 12th and 13th. Return limit, October 19th, or by extension of ticket, October 29th. First-class equipment. Individual Club Meals from 35 cents to $1.00, served in Nickel Plate dining-cars; also a la carte. Mid-day Luncheon. 50 cents. City Ticket Office, 107 Adams St., Chicago. 'Phones Central 2057 and 6172.
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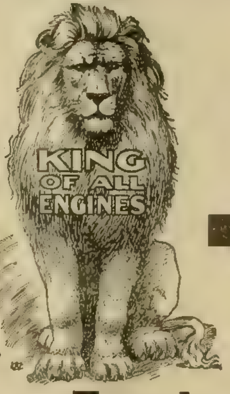

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This engine is **no experiment,** but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

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They are used for all purposes where power is required for operating private electric-lighting plants, small factories, printing offices; farm machinery, such as cream separators, feed-grinders, corn shellers, wood-sawing machines, etc., and for a thousand and one other purposes.

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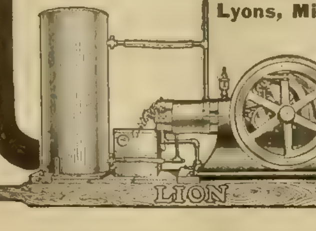

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in good shape for winter. A bargain. Also spare Combs and Supers, Hives, Extractors, etc. Write for list and details.

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Clocks like "The Bee-Hive Clock" usually sell in the stores at from $4.00 to $5.00 each, but having them made for us in quantities enables us to offer them at $2.50 each by express, or with the American Bee Journal a year—both for only $3.00. Either Clock or Journal would make an ideal gift.

How to get "The Bee-Hive Clock" FREE

Send us **5 New Subscribers** to the Weekly American Bee Journal for one year, at $1.00 each, and we will send you this beautiful "Bee-Hive Clock" **FREE** (excepting express charges). Or, send us **4 New Subscribers** (at $1.00 each) and 50 cents—$4.50 in all. Or, **3 New Subscribers** (at $1.00 each) and $1.00—$4.00 in all. Or, **2 New Subscribers** (at $1.00 each) and $1.50—$3.50 in all.

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What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) .or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

Address all orders to GEORGE W. YORK & CO., 334 Dearborn St., CHICAGO, ILL.

Something for Our Poultry-Readers.—As there are so many among our readers who are interested in poultry, we publish the following which is pronounced the best of its kind·

CAPONS AND CAPONIZING.

Capons are aptly termed the finest chicken meat in the world, for there is nothing growing feathers their equal or superior. A capon is neither rooster nor hen—it is nothing else than a capon. After removing the testicles from the cockerel its nature becomes entirely changed. They take on a more rapid growth, are more tame, awkward in carriage and always exceedingly lazy, take on a very heavy and beautiful plumage, the comb and wattles cease to grow, the spurs do not develop as in the cockerel, and being cast off by rooster and hen he soon shows a fondness for the society of little chicks.

BEST TIME TO CAPONIZE.

Fowls hatched any time of the year make fine capons; no ill results follow the operation at any time of the year. The bird should be from 2 to 3 months old (not over 6 months), and weigh not less than 1 to 1½ pounds. This size is equally as important as the age. April, May, June, July, August, September and October are the months generally taken for caponizing, for the reason that spring chickens arrive at proper age and weight during these months; also because cockerels caponized then arrive at the proper age and weight for market during the months of November, December, January, February, March, April and May, at which times there is the greatest demand for them in the cities and highest prices secured.

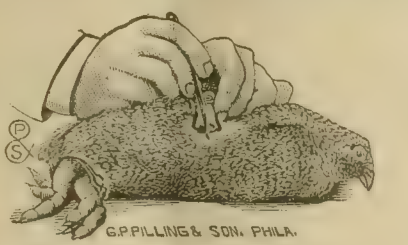
PROFIT IN CAPONS.

Caponize the chicks and you have at once laid the foundation for a handsome profit in a short time to come. Outside of the cardinal points of profit, the simplicity of the operation (when proper instruments are used), recommends itself to every one. A boy 10 years old can readily perform the operation, and any one can soon become an expert.

To the poultry. raiser we would say we know of no source of profit bringing larger returns for the outlay than raising capons, the profit in a great majority of cases being over 100 percent. The question of assured profit is an all-convincing argument in any line, and pre-eminently so to the poultryman whose losses are added to from various unlooked-for sources.

DIRECTIONS FOR CAPONIZING.

From 24 to 30 hours before performing the operation select such cockerels as you intend to caponize (these should be from 2 to 4 months old), confining them in a clean, dry coop, or room without either food or water. The best time to confine them is at early morning, as their long fast will then end about noon of the following day, at which time the operation is performed. Should the day be cloudy or wet do not caponize them, but let the operation go until you have a bright and fair day. It is necessary that you have all the light possible in the matter. Now after slightly wetting the spot proceed to turn down the feathers from the upper part of the last two ribs and just in front of the thigh joint. Pull the flesh on the side down toward the hip, and when the operation is finished the cut between the ribs will be entirely closed by the skin going back to its place.


G.P. PILLING & SON, PHILA.

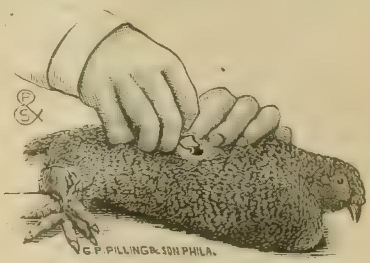
Making Incision.

PROPER INSTRUMENTS.

We have laid considerable stress upon having proper instruments in caponizing, and the more we read the literary effusions appearing in numerous papers to-day touching caponizing instruments, the more need we feel there is to caution the inexperienced ones. While it is not cruel to caponize, it is inhuman to butcher or use unnecessary pain.

CAPONIZING IS NOT CRUEL.

A large number of persons hesitate in caponizing, feeling it to be cruel to the bird. To these we bring our experience in this matter proving to the contrary. This is a greatly mistaken notion, and the operation bestows an unlimited amount of kindness on the bird, even if there were no other considerations or returns. The writer has seen cockerels fly at one another time and again, tearing flesh and feathers with beak and cutting with spurs. Before the combatants could be separated there has been a disfigured comb, probably a blinded eye, and a generally cut-up bird. This is the essence of cruelty.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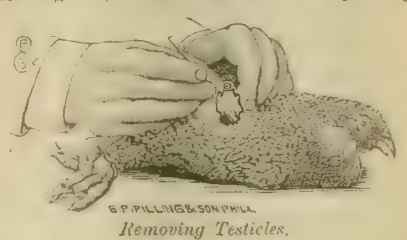
Inserting Spreader.

After caponizing the habits of the birds are entirely changed, their disposition is quiet and peaceable, habits mild and tending to a solitary life and perfectly contented whereever situated. They no longer chase about the farm spoiling for a fight and running off flesh as fast as put on. They no longer arouse the whole neighborhood from morning until night by their incessant crowing, but, on the contrary, become models of good dispositions, leading a quiet life that will surely bring large returns to the raiser. An operation that does away with so much inborn evil can not be considered cruel.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Removing Testicles.

Lansdowne, Pa. CHARLES F. PILLING

CONVENTION NOTICES.

The Southern Bee-Keepers' Association will meet in Atlanta, Ga., Oct. 11 and 12, 1906, during the State Fair, on the Fair Grounds. All interested are invited to attend.

JUDSON HEARD, Sec. and Treas.
J. J. WILDER, Pres.

Illinois and Wisconsin.—The annual meeting of the Northern Illinois and Southern Wisconsin Bee-Keepers' Association will be held at the Court House, in Rockford, Ill., on Tuesday, Oct. 16, 1906. The meeting begins at 9 a.m. and lasts all day. All interested are invited to attend. B. KENNEDY, Sec.
Cherry Valley, Ill.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.
Flint, Mich. W. Z. HUTCHINSON, Sec.

Connecticut. — The Connecticut Bee-Keepers' Association will hold its 15th Fall Convention in the State Capitol at Hartford, Friday, Oct. 12, 1906, beginning at 10:30 a.m. An interesting list of topics for discussion has been arranged. All persons interested are cordially invited to attend, as matters of great importance are to be brought before the meeting. Bee-keepers are invited to bring something for the Exhibition Table—anything they may think will be of interest.

J. ARTHUR SMITH, Sec.

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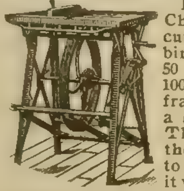

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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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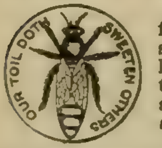
OUR TOIL DOTH SWEETEN OTHERS

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

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No. 3 The Bee Journal a year with Doolittle's leatherette-bound "Scientific Queen-Rearing"—(book alone, 75c—$1.25

No. 4 The Bee Journal a year with a Standard-Bred Italian Honey-Queen (Queen alone, 75c)—$1.25.

☞ Remember, that each is a separate offer, and **must be taken before Nov. 1, 1906,** if you want the advantage of these special prices.

If more of the same kind of Queens are wanted, order at these prices during September and October: 3 for $2.00; 6 for $3.75; 12 for $7.00. **Now is the time to re queen.** Or, we will send 1 Queen **Free as a Premium** to any subscriber (whose own subscription is paid up at least to the end of 1906), for sending us $1.00 and the name and address of a **NEW** subscriber for 1 year.

A free sample of the Weekly American Bee Journal on request; or a "**trial trip**" of 3 months (13 copies), sent for only 20 cents. Regular price is $1 a year. Address,

GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.

☞ All our Special Offers always apply only to the U. S. and its possessions, Canada, Mexico and Cuba.

Bargains Best Wisconsin Sections, per 1000—$4 00; No.2—$3 40; plain, 25c less. 7 percent discount in October on Root's and Danz. Hives, and other Root's Goods.
40A26t **H. S. DUBY, ST. ANNE, ILL.**
Mention Bee Journal when writing.

WE SELL ROOT'S GOODS IN MICHIGAN
Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**
M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH
Mention Bee Journal when writing.

Our Early-Order Discounts on

BEE-SUPPLIES

are now in effect. We furnish EVERYTHING needed in practical Bee-Culture, at lowest prices.

We make the best-finished and substantial

SHIPPING-CASES

in free Shipping-Crates.

Our HONEY-EXTRACTORS

are not excelled for durability, fine workmanship, and practical utility.

Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.

Catalogs issued in English or German.

Mention Bee Journal when writing.

Fire Sale of Bee and Poultry Supplies

Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

New Lewis Goods at 7 percent Discount DURING SEPTEMBER, EXCEPT ON HONEY-PACKAGES.

Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Golden Italian or Red Clover Queens **by return mail.** Untested, 75c; Select Untested Queens, $1; Tested, $1.25; Select Tested, $2.25. Full Colonies in up-to-date hives, and Nuclei, for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)

Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

The Frisco is the Line

To take to the Bee-Keepers' Convention. First-class equipment all the way. Through service from Chicago to San Antonio with exception of change at St. Louis. You run through the beautiful Ozarks over this scenic line to the Southwest. The convention is held at San Antonio in November; the weather is delightful; it is just the time to see this great section at its best.

For additional information write

FRISCO

W. H. RICHARDSON, General Passenger Agent,
CHICAGO, ILL.

Italian and Caucasian

BEES, QUEENS, AND NUCLEI

Choice home-bred and imported stock. All Queens reared in full colonies.

Prices of Italians in JULY AND AFTER:

One Untested Queen.....	$ .65
" Tested Queen.......	.90
" Select Tested Queen	1.10
" Breeding Queen.....	1.65
1-comb nucleus (no queen)	.80
2 " " "	1.40
3 " " "	2.00
1 Un. Caucasian Queen,	1.25
1 Tested " "	1.75

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of queens, send for free catalog.

J. L. STRONG
16Atf 204 E. Logan St., Clarinda, Iowa.

THE AMERICAN FOOD LABORATORY

E. N. EATON, M.Sc., Chemist.
4 years State Chemist, Minnesota.
6 years State Analyst, Illinois.
1235-1248 Caxton Building,
334 Dearborn Street, Chicago, Ill.

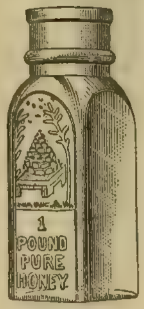
Samples of Honey analyzed. Correspondence solicited.

Mention Bee Journal when writing.

Big Reduction in Supplies

Until May 1. Big stock of Dovetailed Hives and Marshfield Sections to draw from. FREE—a year's subscription with order amounting to $15 or over. Send for 32-page Illustrated Catalog—free.

W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.



Bottles, Jars of every description ....

—FOR—

Honey-Dealers

G. C. STUTTS GLASS CO.,
Manufacturers,
145 CHAMBERS ST. NEW YORK, N. Y.
38E4t Write for illustrations.

Mention Bee Journal when writing.

Moore's Strain of Italians

AS RED-CLOVER WORKERS

Wm. S. Slocum, Newport, R. I., writes:

"My friend, W. O. Sweet, West Mansfield, Mass., asked me about 2 years ago where he could get good queens, and I referred him to you. To-day he called on me and said he noticed the colonies with your queens were storing much faster than others. He went immediately to his red clover field, and saw bees working there freely."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders **By Return Mail**, and shall probably be able to do so until the close of the season.

J. P. MOORE, R.F.D. 1 Morgan, Ky.
26Etf Mention Bee Journal when writing.

Gloves for Handling
BEES

Something New.
Something You Want.

Our specially prepared Gloves soften the hands and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff We furnish them without armlets or sleeves for using in sweeping, gardening or general housework, driving or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white.

All the points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail, or with other goods, at the following low prices:

Bee Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies.....	.35
Men's Gauntlets, fleece-lined..................	.35
Ladies'..................................	.35
Ladies', unlined, for wearing at night or during doing light housework..................	.40

Early Order Discounts on Bee-Supplies (excepting above and a few other articles) as follows:—

7 percent	for cash	with order	before	Oct.	1st
6	"	"	"	Nov.	1st
5	"	"	"	Dec.	1st
4	"	"	"	Jan.	1st
3	"	"	"	Feb.	1st

If you haven't our 1905 catalog, send for one and a free copy of the American Bee-Keeper (50c a year. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.

Mention Bee Journal when writing.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

WANTED—HONEY

White Clover Extracted and Comb. Mail sample and state lowest price expected, delivered in Cincinnati. We pay cash on delivery.

Let me book your Order for **QUEENS** bred in separate apiaries, the **GOLDEN YELLOWS, CARNIOLANS, RED CLOVERS and CAUCASIANS.**

For prices, refer to my catalog, page 29.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses: Freeman and Central Aves.

Honey and Beeswax

CHICAGO, Sept. 8.—The receipts of comb honey are quite large and there is also a good demand for it, so that prices are well maintained at 15@16c for No. 1 to fancy; anything short of these grades is not selling freely and ranges from 1c to 3c per pound less; buckwheat, 12½c; dark grades, 8½10c. Extracted, white, 6½@7½c; amber, 6@7c; dark, 5½@6c. Beeswax, 30c. R. A. BURNETT & Co.

TOLEDO, Aug. 20.—The market on honey has not changed much since our last quotation. Bee-keepers seem to be holding their goods expecting large prices. Fancy white comb brings in a retail way 16@17c; No. 1, 15@16c, with no demand for dark. Extracted white clover, in barrels and cans, brings 6½@7c; but very little has been offered as yet. Beeswax, 26@28c.
GRIGGS BROS.

INDIANAPOLIS, July 28.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, Sept. 20.—Comb honey has been arriving quite freely and the demand is quite brisk at this time. Prices seem to have an upward tendency. The outlook is for still higher prices. We would advise parties who have comb honey to ship, to send it in at once and sell it while the demand is on, for September, October and November are big honey months. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber. 12@14c. Fancy white extracted, 8@9c; light amber, 7@8c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Aug. 18.—There is a good demand for new crop comb honey, but arrivals are very small as yet, and will continue so for a week or two to come. We quote fancy white at 15c; No. 1 white at 14c; No. 2 white at 12c; it is too early as yet for dark or buckwheat. Extracted is in good demand at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Southern, common average grade, 50@55c per gallon; better grades at 60@65c. Beeswax firm at 30c.
HILDRETH & SEGELKEN

CINCINNATI, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5½@5¾c. Beeswax, 30c.
C. H. W. WEBER.

DENVER, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, Sept. 10.—Receipts of both comb and Extracted honey are light at present and the demand is good. We quote: No. 1 white comb, 24-section cases, $3; No. 2, $2.75. New extracted, 6@6½c. Beeswax, 25c.
C. C. CLEMONS & Co.

CINCINNATI, Sept. 18.—The demand for comb honey is good; fancy and No. 1 selling freely at 15@16c; lower grades not wanted at any price. The market on extracted honey is quiet, as quantities remain unsold from last season. We quote amber at 5½@7c, according to quality. Fancy extracted white clover at 7½@8c. We are paying 29@30c for choice yellow beeswax free from dirt. THE FRED W. MUTH CO.

WANTED

To buy for cash, Fancy Comb and Extracted Honey. R. A. HOLEKAMP,
31A13t 4263 Virginia Ave., ST. LOUIS, Mo.

HONEY AND BEESWAX

When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

WANTED

To hear from parties with their lowest cash price, delivered here, for fancy comb honey in no-drip shipping-cases; also extracted honey. We are cash buyers, and remit on receipt of goods.

THE FRED W. MUTH CO.
27Atf 51 Walnut St., CINCINNATI, OHIO.

Please Mention Bee Journal when writing advertisers.

WANTED TO BUY AT TOP PRICES

WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
——Catalog Free——
29Atf **1004 East Wash. Street, INDIANAPOLIS, IND.**

HONEY! HONEY! HONEY!

Have you any to sell? If so, see us before selling. We pay highest Market Price for both Comb and Extracted Honey—also Beeswax. . . .

GRIGGS BROTHERS, 521 Monroe Street, Toledo, Ohio
25A6t

"DADANT'S FOUNDATION"

IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness. No Sagging, No Loss.
Twenty-seven Years of Experience. We Guarantee Satisfaction.

WAX WORKED INTO FOUNDATION

BEE-SUPPLIES of all kinds.

Beeswax Wanted at all times...

* * * *

DADANT & SONS, Hamilton, Ill.

SEND FOR OUR CATALOG

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN
265 & 267 Greenwich Street - NEW YORK, N. Y.

30Atf

National Bee-Keepers' Convention, San Antonio, Nov. 8-10

AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., OCT. 11, 1906 No. 41

Apiary of D. J. Blocher, of Pearl City, Ill.
(See page 862)

Apiary of E. G. Carr, of New Egypt, N. J.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times....	5 per cent	100 lines...	5 per cent
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26 " 20	"	1000 " ...20	"
52 " 30	"	2000 " ...30	"

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the ublishers of the American Bee Journal.

ITALIAN QUEENS

I am offering choice Italian Queens at **75c** each — golden or leather-colored daughters of an imported mother. Make your choice and write to-day to

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R.F.D. 3.

Mention Bee Journal when writing.

75 Colonies Italians For Sale!

in good shape for winter. A bargain. Also spare Combs and Supers, Hives, Extractors, etc. Write for list and details.

W. R. ANSELL
274 MIDWAY AVENUE, ST. PAUL, MINN.
40A2t **Please mention the Bee Journal.**

Barred Rock Cockerels

—FOR SALE—

100 Barred Rock Cockerels, all hatched from special mating of 15 of my very best winter laying pullets, mated to a 12-pound Bradley strain cock of good laying strain. My Circular giving information on how to breed up a good laying strain, is free. Send for it.

J. E. JOHNSON, Williamsfield, Ill.

Mention Bee Journal when writing.

We Manufacture the Finest, Whitest No-Drip, Basswood Shipping-Case

on the market to-day. Covers and bottoms are of **One Piece**. Everything is **Polished** on both sides, and a better case cannot be had at any price.

We can furnish them in single or car-load lots to fit any number or style of section. Large quantities of all the standard sizes on hand.

As a special offer, we will sell you 25 cases to hold 24 sections, complete with **Nails, Paper** and **Glass**, at $4 00. Write for prices on larger quantities. Can furnish corrugated paper if desired.

We can furnish you with anything you need in the apiary. Our Catalog is free.

Prompt Shipment and Satisfaction Guaranteed

Minnesota Bee-Keepers' Supply Co.

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8.00	$ .95	$ 5.00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10.00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested ..	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders.......	$10.00	1-frame Nucleus (no queen)	$1.50
Select Golden Breeders	3.00	2-frame " "	2.00
" 3-band "	3.00	3-frame " "	2.50
" Carniolan "	3.10	4-frame " "	3.00
" Caucasian "	3.25	1 full colony without queen in 8-frame dovetailed hive........................	6 00

Bees by the pound in light shipping-boxes, $1.00 per pound.

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

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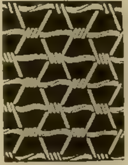
Queens Now Ready to Mail

None better at any price. Untested at 50c; Warranted at 75c; Tested at $1.00. Discount on quantity.

GRANT ANDERSON,
20Atf SABINAL, TEXAS.



FENCE *Strongest Made*

Made of **High Carbon** coiled wire. We have no **agents.** Sell direct to user at **factory prices on 30 days free trial.** We pay **all freight.** Catalog shows 37 styles and heights of farm and poultry fence. **It's free.** Buy direct. Write today

COILED SPRING FENCE CO.
Box 89 **WINCHESTER, INDIANA.**

Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of **SUPPLIES.** Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. ∴ ∴ ∴ **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

EARLY ORDER DISCOUNT During October I will offer a discount of 6 percent on Supplies for next season's use. In November the discount will be 5 percent. Cash must accompany order.

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

SPECIAL OFFERS for Sept. and Oct. ONLY

Cloth-bound Dollar Books for 60 cents each

ALSO

A 75c Book and a 75c Queen for 25c each when taken with the American Bee Journal as offered below:

(To either New or Renewal Subscribers.)

DR. MILLER

DOOLITTLE

No. 1 The Bee Journal a year with Dr. Miller's cloth-bound "40 Years Among the Bees" (book alone $1)—both for $1.60.

No. 3 The Bee Journal a year with Doolittle's leatherette-bound "Scientific Queen-Rearing"—(book alone, 75c—$1.25

No. 2 The Bee Journal a year with Doolittle's cloth bound. "Scientific Queen-Rearing" (book alone, $1)—$1 60.

No. 4 The Bee Journal a year with a Standard-Bred Italian Honey-Queen (Queen alone, 75c)—$1.25.

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A free sample of the Weekly American Bee Journal on request; or a "**trial trip**" of 3 months (13 copies), sent for only 20 cents. Regular price is $1 a year. Address,

GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.

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40A26t **H. S. DUBY, St. Anne, Ill.**

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WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**

M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

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Long, Good Advertising

27 years ago bee-keepers were surprised by the first Patent Bee-Smoker.

Bingham's Patented Smoker Improvements

Are dated 1878, 1882, 1892 and 1903.
6 percent Discount for October orders.

Any number, any size, copper or tin, delivered any time.

T. F. BINGHAM
Farwell, Mich.

Mention Bee Journal when writing.

Big Profits in Capons

CAPON
TOOLS

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor	25c
Poultry Marker	25c
French Killing Knife	50c
Capon Book Free.	

G. P. Pilling & Son, Philadelphia, Pa.

Mention Bee Journal when writing.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

☞ J. G. Goodner, of this State, writes me that "he prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

Mention Bee Journal when writing.

COILED SPRING FENCE

Closely Woven. Can not Sag. **Every wire and every twist** is **a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

30 DAYS FREE TRIAL and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made—how it is galvanized—why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 85 MUNCIE, INDIANA.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

—FOR HIS—

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

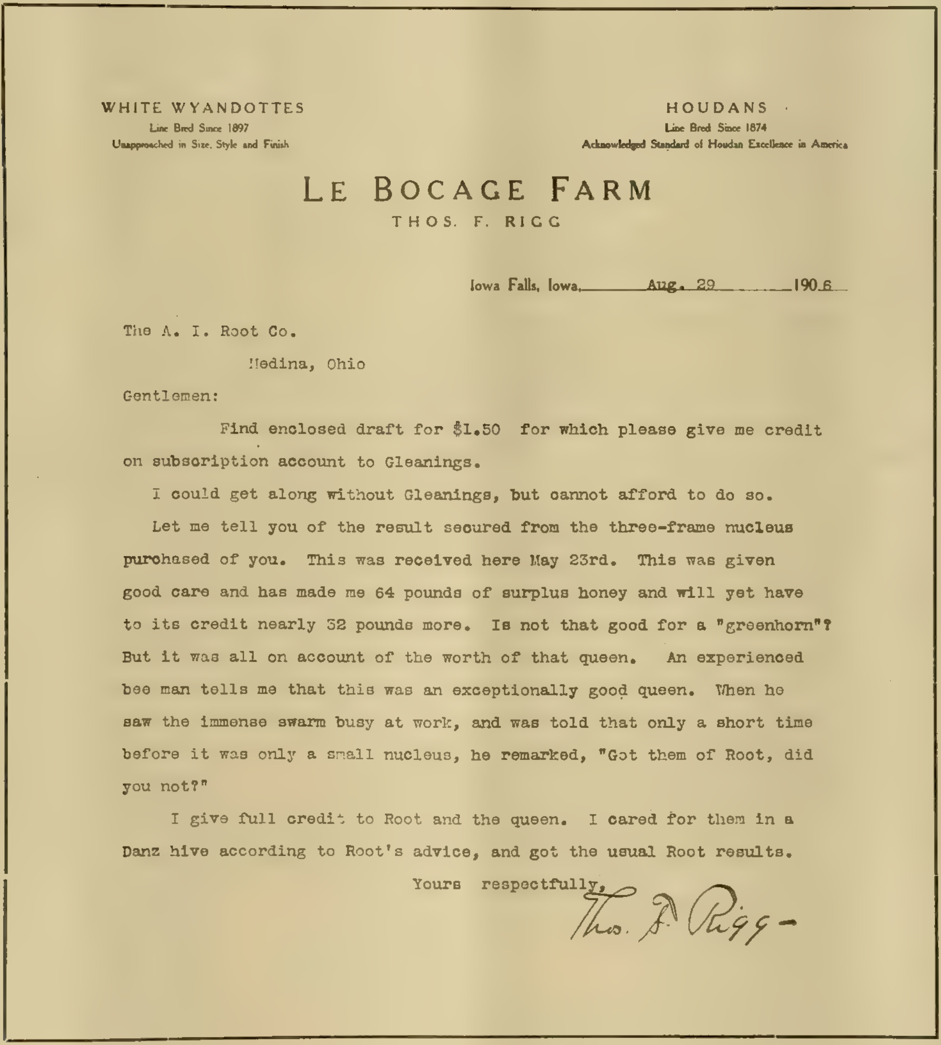
The letter reproduced below from a well-known poultry-man is representative of hundreds of unsolicited letters received annually, commending the Root Goods. Whether you are a dealer in Supplies or a bee-keeper, you will be interested in what Mr. Rigg says, especially if you have never used our Supplies.

In this letter we call your particular attention to 3 points:

1st.—Mr. Rigg could get along without GLEANINGS, but could not afford to do so. Neither can any one keeping bees, even if only a single colony.

2d.—In purchasing bees, as with other stock, it pays to get select stock. See what results Mr. Rigg obtained from our red-clover strain of bees.

3d.—We respectfully urge you to notice that Mr. Rigg used our Danzenbaker comb-honey hive. If you want to produce fancy honey, this is the hive to use.



WHITE WYANDOTTES
Line Bred Since 1897
Unapproached in Size, Style and Finish

HOUDANS
Line Bred Since 1874
Acknowledged Standard of Houdan Excellence in America

LE BOCAGE FARM
THOS. F. RIGG

Iowa Falls, Iowa, Aug. 29 1906

The A. I. Root Co.
Medina, Ohio

Gentlemen:

Find enclosed draft for $1.50 for which please give me credit on subscription account to Gleanings.

I could get along without Gleanings, but cannot afford to do so.

Let me tell you of the result secured from the three-frame nucleus purchased of you. This was received here May 23rd. This was given good care and has made me 64 pounds of surplus honey and will yet have to its credit nearly 32 pounds more. Is not that good for a "greenhorn"? But it was all on account of the worth of that queen. An experienced bee man tells me that this was an exceptionally good queen. When he saw the immense swarm busy at work, and was told that only a short time before it was only a small nucleus, he remarked, "Got them of Root, did you not?"

I give full credit to Root and the queen. I cared for them in a Danz hive according to Root's advice, and got the usual Root results.

Yours respectfully,
Thos. F. Rigg

Our early order discount for October is 6 percent. If you can't make up your specifications to-day send your remittance to cover approximately your needs, and claim the discount, and let your order follow by later mail. If you want goods to the amount of $50 remit us only $47.00. Other amounts in proportion. Claim the benefit of the discount when your remittance is sent. Send orders and remittances either to our home office, branch offices, or jobbing agents. Notice list of names of principal dealers in the Sept. 6th issue of this paper.

Dealers at remote points can not always make the same prices and discounts that we do at Medina, but are able to do so in many cases. Correspond with such dealers direct on these matters.

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GEORGE W. YORK, Editor CHICAGO, ILL., OCTOBER 11, 1906 Vol. XLVI—No. 41

Editorial Notes and Comments

Dark Brood-Chamber Honey or Sugar Syrup in the Sections

On this subject there appears in the Canadian Bee Journal the following words of caution:

> A late issue of the American Bee Journal advises bee-keepers to make their hives heavy for winter by leaving plenty of sealed combs of dark honey, arguing that the dark honey thus placed will really be equal next season, pound for pound, with light honey. Commenting on this, Editor Hutchinson, in the Review, asks bee-keepers to see how much of this dark honey will go into the sections, intimating, of course, that there is not much likelihood of dark honey, or sugar syrup either, going into the supers. Seems to me that Mr. Hutchinson is treading on dangerous ground, for surely any practical apiarist knows that, if a brood-nest is full of any kind of honey or syrup, provided the colony has a prolific queen and swarming does not take place, quite a large percentage of this honey or syrup will find its way into the surplus apartments. This is something that any one can test for himself, and if the novice has colonies that go into the clover-flow with the brood-chamber full of buckwheat honey, he may decide that while experience is a good teacher, it is sometimes a little expensive.

If we take the broadest view of the question: "Is dark honey carried from the brood-chamber into the sections?" the answer must undoubtedly be in the affirmative. Not only some, but all honey, light or dark, that is put into sections, is carried there from the brood-chamber. For so good an authority as G. M. Doolittle tells us that when a fielder brings in a load of nectar she does not go with it to the super, but deposits it in some cell of the brood-chamber, whence it is afterward carried into the surplus apartment.

In the present case, however, the question is not to be taken in this unlimited sense, it being rather whether honey stored in the brood-chamber in the fall, or given in the form of sealed combs in the spring, is likely to be carried into the super. If there be in the brood-chamber so much honey that there is not room for the queen to lay, will not the bees empty some of the cells? and what can they do with the honey but to carry it into the super?

It must be remembered, however, that the time when the brood-nest is expanding—in other words, the time when additional room will be needed—is before the harvest, when very little honey is coming, and a large amount of honey is daily consumed in the rearing of brood. When a frame of sealed honey is given in the spring, it does not take the place of a comb having any brood in it, but of one without brood, and with little or no honey. Will not the honey in it be needed for the increasingly large amount of brood as fast as it is necessary to empty such honey out of the cells? Certainly the danger seems rather remote, under ordinary circumstances. But, after all, the matter is one not of theory, but of plain fact.

In buckwheat regions it ought not to be an uncommon thing for much buckwheat honey to be found in the brood-nests, and also for sealed combs of such honey to be given in the spring, and it ought to be easy for bee-keepers, under such circumstances, to say whether they have found buckwheat honey in sections during the clover flow. If they have, then it is important to know about how much the brood-chamber must be crowded with honey before the danger-line is reached.

The question is not one of supreme importance so long as only honey is involved, but it is one of first moment when it comes to the danger of having sugar syrup carried into the sections. Better never feed sugar than to run any such risk, if risk there is.

Bees Can't Puncture Grapes

We have received the following from Mr. C. P. Dadant, President of the National Bee-Keepers' Association, concerning the belief in some places that bees destroy grapes:

> MR. EDITOR:—Referring to the article on page 757, by Mr. John Kennedy, I wish to reassure him in favor of the bee. The bees *can not* puncture grapes. This may be tested thoroughly by inserting a few bunches inside of the hives. Such grapes as may have been already punctured or damaged by the handling will be cleaned out by them; the others will wilt in the hive and will often be found glued fast by the bees, that aim to cover them with propolis, as they do with anything which they can not remove.
>
> In addition to birds and other insects than the bee, there is great loss caused by the fruit bursting from overfulness. I would suggest that this may have been the trouble in the case mentioned, for when the fruit ripens, it often swells with juice to such an extent that the skin can not contain it, and the result is a bursting, which always begins at the stem-end, as mentioned by Mr. Kennedy. If the bees are short of food they discover this at once, and begin sucking at the ruptured spot, so that they might well be suspected of causing the damage. If the bunch is picked off, the sap quits running, and the berry is much less likely to burst. So when you insert a bunch of grapes in a hive of bees, there is but little chance of that sort of damage happening. To me, the most positive evidence that the bees can not puncture grapes is that they suck everything clean in damaged grapes, and leave the unpunctured ones. I have actually seen bees starve on sound grapes.
>
> In addition to these evidences there is a physiological fact. The bees' mandibles are not sharp, but rounding, much like spoons, and they can no more puncture a smooth-skin berry than you or I could bite into a smooth plaster wall. The evidences in favor of the bee need a little demonstration, but they are just as palpable as the fact that the earth revolves around the sun, and not the sun around the earth, as we might be led to believe, and as our ancestors believed because of having only the testimony of their eyes.
>
> It is lucky for us that our little friends, the bees, are unable to do damage of the kind mentioned, for there is no doubt that if they had the ability to puncture fruit they would often be guilty of it.
>
> Hamilton, Ill.

Mr. Dadant is a careful observer, and is also an extensive vineyardist. The poor bees are often accused wrongfully, and especially when some people find their grapes suffering from an uncertain cause. The fact that bees can not bite through a smooth surface like the skin of a grape clears them of any guilt in this matter. It is true that bees can pull some things to pieces when they can get hold of them with their mandibles, but it should always be remembered that they can only press or pinch with them, and not bite at all. The mandibles are not sharp, and so can not cut anything.

◆

Transferring Combs

The matter of transferring combs is of much less importance than formerly, yet for those who still have transferring to do, the following plan taken from the Irish Bee Journal may be worth considering:

> Trim straight the bottom edge of the comb to be transferred. Let it rest on the bottom-bar of the frame (having previously fixed to the top-bar a piece of foundation of such a size and shape as to fill the remaining space). Fasten horizontally around the outside of the frame one or more pieces of wire—sufficient to prevent the comb from falling sidewise If necessary put another wire around the frame perpendicularly. Without any further attention the foundation will be drawn out, the piece of comb fixed, and the result will be a frame filled with comb. When the bees have completed the work of fixing, cut the enveloping wires. This will be found a handier and neater way of transferring a comb than the old method of tying it with tapes and a false bottom-bar.—W. Munro.

◆

"Tested Queen" Defined

What is a tested Italian queen? The orthodox answer is that it is a queen whose worker progeny shows 3 yellow bands. When Italians were first introduced into this country, that answer fully met the case, and it was safe to say that such a queen was of pure Italian blood and purely mated. Is such the case now? We have developed bees that show 5 yellow bands. Suppose a queen of 5-banded origin meets a drone with such an amount of black blood that the resulting worker progeny shows 3 yellow bands. The old answer will not hold good. What, then, is a tested queen?

Miscellaneous News-Items

Mr. James A. Green, of Colorado, it seems was unintentionally misrepresented in a recent issue of this Journal. He corrects us as follows:

> Friend York:—On page 814, you quote me as saying that "I will harvest a full crop of honey." Did I really write that? If so, it was a "slip of the pen." One of my apiaries, it is true, produced what might be called a full crop, but 2 others produced only a fair crop, and the other 3 apiaries had only a poor yield, so that I will not have over half a crop. I meant to say that I would harvest a fair crop. To claim more is an error that I would like to have corrected, as it is far from the truth.
>
> Neither am I inspector of apiaries at present, as I resigned the office of bee-inspector last spring. I had too much work of my own to attend properly to the inspectorship, so I gave it up. Mr. H. S. Groves, of Fruita, is my successor. James A. Green.

Mr. Green is right. A typographical error made him say "full crop" instead of "fair crop," as he had written it.

We supposed, of course, that Mr. Green was still a bee-inspector, not having heard of his resignation.

◆

The Apiary of E. G. Carr, of New Egypt, N. J., appears on the front page of this issue. Mr. Carr wrote as follows on Aug. 31:

> I am sending a photograph of my apiary of 25 colonies, increased from 19 in the spring. The crop is nearly a failure here this year—about 150 pounds of extracted and 50 pounds of comb honey. Very little clover survived last winter, and what there was left evidently had no nectar in it, as the bees did not notice it. There was a good flow from locust, and some from poplar.
>
> My little girl of 5½ years is shown holding a frame of bees. She has practically no fear of them; and, if she is stung, she goes into the house to get something to put on the part stung, and then is right back with me among the hives.
>
> Like all other bee-keepers, I am hoping for a good honey crop next season.
>
> I anxiously look forward to the weekly arrival of the "old reliable" American Bee Journal. E. G. Carr.

◆

The Apiary of D. J. Blocher, of Pearl City, Ill., is shown on the first page. When sending the photograph on Aug. 9, Mr. B. wrote as follows:

> The picture I send is one of the home yard of golden Italians. It is about 6 miles southeast of the Black Hawk Monument, where Black Hawk, the Indian chief, took his stand before leaving the State.
>
> We run from 70 to about 100 colonies in this yard, in addition to many 2 and 3 frame nuclei of standard Langstroth size. Only a part of the yard is seen.
>
> The finest breeder I ever owned is in this yard. She is now in her 4th summer, and doing as good laying as ever. She is of my own rearing.
>
> I have had some bees since boyhood, but on account of working on the farm, and afterward going to school, I have given them less attention than I do now. The way I care for this yard is clearly seen. It is moved every week, and salt is put around the hives to kill the grass next to them. Between the first and second rows of hives is seen the watering trough, which is kept going the whole summer. Salt is added every little while. The entire yard is in the open. All dummies are kept on the sunny side of the hive. I have 2 other yards which I run in conjunction with this one for queens and honey. Last spring we planted a wind-break west of the yard, and contemplated planting more, also a few trees in the yard for some shade.
>
> We are slow to take hold of new inventions, but are firm believers in the standard Langstroth frame and hive, that can be tiered up or torn down. With this kind of hive we can fit any hive with supers, either for extracted or comb honey. After trying a good many hives, we have come to the above conclusion.
>
> Requeening in the fall is also one of our ideals for a successful apiary. We are preparing for still more extended operations and improvements. Our strawberry field is just in front of the bee-yard. The dwelling-house is at the southeast corner of the yard, but we had to get on the cave back of the house for the view we wanted, so the residence is omitted from the picture. D. J. Blocher.

◆

A Bee-Disease Inspectors' Meeting will be held in San Antonio, Tex., Nov. 12, being the Monday following the last day of the meeting of the National Bee-Keepers' Association on Nov. 8, 9, and 10. Dr. E. F. Phillips, Acting in Charge of Apiculture in the Bureau of Entomology, Department of Agriculture, Washington, D. C., sent us the letter published below, dated Sept. 7. At that time it was expected to hold the meeting of the Bee-Disease Inspectors in San Antonio on Nov. 7, but on account of the Home-Seekers' Excursion tickets not being sold before Nov. 6, it would have been impossible for many to reach San Antonio in time for any meeting on the 7th, so the date of this meeting has been changed to Nov. 12. In view of this, we have changed the following letter to read "Nov. 12" where it was written "Nov. 7," and have made a few other slight changes to correspond with the changed date.

> Dear Mr. York:—I herewith enclose a circular letter which was sent out some time ago, which will explain itself.
>
> After hearing from a number of Inspectors who agree to be present, it has been decided that this meeting will be held in San Antonio, Tex., on Nov. 12, 1906. A number of persons prominent in bee-disease work will be present, and a good meeting will result.
>
> To this meeting all persons interested in work on bee-disease are invited. The attention of persons interested in having bee-disease laws passed is particularly called to this gathering, and such persons are urged to attend. It is, of course, to be understood that discussion of subjects foreign to bee-disease will not be allowed, nor will any one be permitted to occupy the time of the meeting in riding a "hobby." This meeting is not part of the National Bee-Keepers' Association meeting, nor is it in any way connected with it. The proceedings will probably be published, so that the discussions will be available for those not present.
>
> E. F. Phillips,
> *Acting in Charge of Apiculture.*

Accompanying the foregoing letter was the following, signed by two inspectors of apiaries, and also Dr. Phillips; and, as in the above letter, we have changed "Nov. 7" to read "Nov. 12:"

> To the Bee-Disease Inspectors:—
>
> As you are well aware, the brood-diseases of bees are a serious thing to American bee-keepers. While the inspectors are fighting the progress of disease to the best of their ability, yet lack of laws, inadequate laws, and an absence of uniformity of method and of co-operation make the work difficult.
>
> For these reasons it has appeared advisable to call a meeting of inspectors for the purpose of remedying this condition of affairs in so far as is possible, by consultation and co-operation of persons familiar with this work.
>
> If the inspectors now at work on these problems can meet together, there are several

subjects which could be discussed to advantage. Among these might be mentioned:

Comparisons of methods of treatment.

Locality differences in disease and treatment.

Foul brood laws now in force, with suggestions for improvement.

As a time and place of meeting San Antonio, Tex., Nov. 12, 1906, has been suggested, since the National Bee-Keepers' Association meets there just before, and the inspectors would thereby get to attend both meetings. At the same time it would also add to the interest in the National Bee-Keepers' Association's Convention. The low railroad rates would make the expense less heavy. Another suggestion is Washington, D. C., where it would be possible to have the bacteriological side of bee-disease work explained and demonstrated. No decision of time and place will be made except by choice of the majority of inspectors who agree to come.

One of the important results of such a meeting would be that persons interested in the passage of new foul brood laws would have an opportunity to consult with those already familiar with the fighting of bee-disease, and get suggestions as to the best form of law. If such a meeting is held, it will be open to all persons interested, but it is understood that it is to be strictly an inspectors' meeting, and other persons will not be allowed to take up valuable time of the meeting in discussions.

The questions which we wish to have answered by the various inspectors are:

1. Are you in favor of such a meeting?
2. Will you come?
3. Will your State or County pay your expenses?
4. What is your choice of time and place?

In case of a good attendance and a successful meeting, arrangements can easily be made for the publication of the proceedings of the meeting without cost to the inspectors.

We feel that attendance at such a meeting by the inspector would be of sufficient value to the community that the State or County employing him should be willing to pay the necessary expenses of such a trip.

The hearty co-operation of every person interested in this work is earnestly requested. Such a meeting will be for the purpose of furthering work in fighting bee-diseases, and not to advance the interests of any person except the bee-keepers of America.

Kindly write *at an early date* and let us know what you think of such a movement. A candid, full reply is solicited.

Truly yours,
W. Z. Hutchinson,
Inspector of Apiaries for Michigan.
N. E. France,
Inspector of Apiaries for Wisconsin.
E. F. Phillips,
U. S. Department of Agriculture.

It is hoped that every bee-disease inspector in the United States may be present at the special meeting to be held on Nov. 12. It will be a very important gathering, and has the hearty co-operation and interest of the Department of Agriculture at Washington, D. C., which is so ably represented by Dr. Phillips.

The National Convention Report will be completed next week. It was crowded out of this issue.

The Ohio Farmer, one of the leading weekly farm papers of this country, we offer in connection with the American Bee Journal, both for one year, for $1.35. A sample copy of the Ohio Farmer may be had by sending the request to Cleveland, Ohio. All orders for subscriptions on this combination rate of $1.35 for the two should be mailed to the office of the American Bee Journal.

Contributed Articles

Preparing for Next Season During Winter

BY GRANT STANLEY

Too many bee-keepers are inclined to work their bees for all they are worth in order to secure as large a crop of honey as possible, and then give them some sort of protection for winter, and think there is nothing more to be done until the following spring. This is certainly a mistake. If we are to accomplish the best results from our bees, it will be found necessary to work in their behalf the greater part of the year, and, of course, this includes the winter months. There is so much to get ready for the next season's harvest; and one thing the bee-keeper should feel thankful for is, that he can do this work during winter, when there is no work to be done directly with the bees, and not be compelled to do it at a time when they are storing, and possibly swarming. I say we should feel thankful for this, as it certainly enables us to get everything, from the smallest to the highest in detail, in perfect readiness for the next season's harvest.

With a large number of colonies the bee-keeper has all he can do, and often more, to see that they are all being properly manipulated for best results. All colonies wintered on the summer stands should be made perfectly level by the use of a spirit-level each spring and fall, and though this may have been done the previous spring, you will find the hives have settled considerably out of shape as a result of the weight of the season's harvest.

In the fall, the bee-supply manufacturers offer a discount on the purchase of supplies. This is a benefit to the bee-keeper in two ways: he can secure his supplies cheaper then, and have them in readiness to put up during the winter months. The sections can be folded, comb foundation put in them and placed in the supers, all ready to go on the hives.

The first supers intended for the bees the following spring should contain one or more clean bait-sections in the center of each super, so they will be directly over the brood-chamber, and induce the bees to work in them.

All supers should be piled one on top of the other, so that no dust or anything can reach the sections, as bees do not like to work on dirty foundation. If the supers do not pile close enough to keep out the dust, lay several thicknesses of newspaper between each 2 supers to close up the cracks.

All hives and hive-parts should be put together during winter, and if the bee-keeper has a work-shop and stove, this work should be a delight. Provide a cupboard in the work-shop, and when you run across anything illustrated in the various bee-papers you desire to make, place it in the cupboard and it will be right at hand when wanted.

Hive-stands can also be made, if more increase is desired, wintering-cases and shipping-cases put up—in fact, everything should be done during winter so that no work of this nature whatever need be in the way at the arrival of spring. If this work is all done during winter, we will also be able to give the bees much closer attention during the harvest, and certainly secure more honey.

Use a good quality of paint for the hives. The ready-mixed kinds are not worth a great deal for bee-hives. Buy the best grade of white lead and oil, and mix the paint yourself, and you will not be disappointed. As most bee-keepers prefer white paint, the mixing is not hard to do.

The long winter evenings are an excellent time for reading the bee-papers. Remember, we owe our success to reading and thinking. Reading spurs to thought, thought to action, and these bring success. Don't wait until spring, but lay your plans *now*, and work right up to them; and when the needs of next season's harvest dawn, you will not have a great deal of trouble in supplying them.

Nisbet, Pa.

No. 19—Dadant Methods of Honey-Production

BY C. P. DADANT

Those who have read my preceding article have learned how we rear the queen-cells. We now proceed to make nuclei. Some may object that nuclei are not what they want. They want full colonies. Have a little patience. We have started with the intention of making increase *without too much sacrifice*, but with the expectation of *making all strong* for winter. We also expect some queens to be handed over to full colonies to replace worthless queens. In either case we begin with nuclei.

If, however, the bee-keeper wants to make the increase with the greatest possible speed, and without having the trouble of a number of manipulations, he may make swarms at once, which will need no further attention, in ordinary seasons, except to ascertain that they have laying queens. To this end, however, it is necessary to use a number of colonies that would probably have produced surplus honey. It is, therefore, not the most economical method, but it is the speediest. Take away the queen of a colony, one or two combs of brood and all the bees that cover those two combs, and place them in a new hive with sheets of foundation in the frames. This hive must be placed on the old stand, and the old hive is removed to the stand of another colony of rather under medium strength; this latter colony being placed in a new spot. The two combs of brood that have been removed must be replaced with sheets of foundation; this is important, for otherwise the bees would build drone-combs in the place of these combs.

The queenless swarm thus made on the 9th day is supplied with a queen-cell on the 10th day, or the day following the dividing of the colonies. This length of time is necessary for the bees to make sure of the loss of their queen; otherwise, they would destroy the queen-cell given them. The queen-cell may be introduced in a queen-cell protector. But if it is inserted in the center of a comb of brood, there is very little danger of its being destroyed by the bees. The queen will hatch, usually within 2 days, and in about 10 days of the making of the division, they will have a laying queen. When swarms are thus made of considerable strength at the outset, it is necessary to examine them to make sure they are not rearing queen cells of their own brood with the expectation of swarming with the first queen. Such cells must be destroyed.

Swarms of this kind should be made with colonies of only fair strength—such colonies as are not likely to produce much if any surplus. They become strong at once, and in a good season the divided colonies, and especially the colonies that have furnished only field-bees by their removal to a new location, will often be able to furnish additional bees or brood later.

The above method is not so economical as the nucleus method, however, for there are a few days lost before the queens lay. By the nucleus method we rear our queens first, and strengthen the nuclei afterwards, or as many of them as we choose to make into full colonies.

All the text-books give instructions on how to make nuclei. Take 1, 2 or 3 combs with brood from some colony and place these in an empty hive, or in a nucleus hive, with a goodly number of young bees. You must bear in mind that some of the bees may return to the mother colony; the old bees surely will, and for this reason, more bees than needed should be taken. We usually place these nuclei in a shaded spot, and close them over night so the bees will become used to them. If the nuclei are made late in the afternoon there will be no danger from suffocation. The empty space at the side of the combs given must be filled with a dummy to reduce the amount of room that needs to be kept warm. Nuclei made with divisible frames, such as I mentioned on page 232, or such as recommended by F Greiner, on page 343, will make a much more compact diminutive colony with a less number of bees and a less amount of combs and brood than those made with full frames.

These nuclei are made on the 9th day of the queen-cell rearing, and on the 10th day the queen-cells are inserted in them, one to each. If the work is done carefully there will be no failure. It is well, however, for the bee-keeper to have another colony rearing queen-cells 2 days after the first, so that in case of failure other queen-cells may be at hand to replace those that are destroyed. If the cells are in good shape, after a few hours of introduction they will come to maturity. I have often inserted queen-cells on the morning of the 10th day, and found them hatching the same evening.

By the nucleus method we prepare our queens at the lowest possible cost. When the queens are fertilized and laying, we may, at our option, increase our little colonies to full strength by the insertion of a comb of brood from time to time, or, if we wish, by moving the nucleus to the stand of a full colony, which is, in its turn, brought to the stand of the nucleus, thus causing the weak colony to gain all the field-bees of the other in exchange for its own field-bees. This may be done without trouble during a honey harvest, for the bees are then peaceable, and although they know the new comers are strangers, they welcome them as we would welcome a friend who brings us a gift. The nucleus must at once be enlarged, of course, to a capacity sufficient for the accommodation of its increased field-force.

In all these manipulations we aim to take nothing from our best colonies, aside from the brood taken from our best queen, and even that is only an exchange—a loan. The principle upon which we work is that the best colonies are the only ones from which we may expect a bountiful harvest. In all seasons but extraordinary ones, we have colonies that are of fair, average strength and yet yield but little. You daily expect to see them at work in the supers, but day after day passes without change. The reason is that they have become strong a little too late for good results. These are the colonies from which we may take our increase by the above-named method without any perceptible decrease in the amount of crop expected, for what we want in making swarms is plenty of young bees and good queens.

By the natural method of allowing bees to swarm we get our increase, of course, from the best colonies, but we do away with our best chances for a honey crop. This method gives us both honey and swarms.

Hamilton, Ill.

Black Building Paper for Winter Protection of Hives

BY ARTHUR C. MILLER

For several years I have been using and advocating black building paper as a winter protection to hives. The theory I had was that while being wind and water proof, it would, by absorbing the sun's rays, help warm and dry the hives, thereby enabling the bees to feed and clean house, and by its poor conductivity by contact, and by its not fitting tight to the hive, would be so slow in permitting the escape of the heat that it would give the bees ample time to re-cluster. The results have been all and more than I expected.

Other bee-keepers have tried the plan, some exactly as I gave it, others modifying it to meet their own theories. Some have, through fortunate combinations, made important advance, while some others, governed by prejudice, have dismissed the notion without trial. Among the latter was one who, in commenting on the scheme, said he had tried "virtually the same thing," having "wrapped hives in paper and slipped over all an outside winter-case." The "results were unsatisfactory."

Among those who have tried it, and developed it, is Mr. Allen Latham, of Connecticut, who runs many small apiaries scattered from the tip of Cape Cod to the Connecticut River. Some of his yards he sees but twice a year, and his Cape bees he does not see from Sept. 1 of one year until July 10 of the next. Obviously he must have a system and appliances which need very little care. In his out-apiaries he uses a hive which outdoes Mr. Dadant's for size, having 20 frames 16x11 inches, inside measure. They are arranged all on one level, the queen being restricted to 8 frames at the front of the hive.

The hives are built on the well-known, air-spaced, paper-lined-walls principle, and covered with black waterproof paper. Even on bleak Cape Cod, where the winter winds have an unchecked sweep of thousands of miles, his bees winter perfectly, and his crops on that seemingly barren sand-pit average about 100 pounds of honey per colony. Neither there nor inland does he have to putter with spring feeding or "stimulation," no "contracting of brood-nest" and similar nonsense.

What would the advocates of the 8-frame shallow hive think of letting their tiny colonies winter in a box approximately 3 feet long, 1 foot deep, and 1½ feet wide? Look at their expense in labor, in appliances, in feeding, and in winter loss. Mr. Latham's labor item is so small per colony that it is not worth computing; and his winter losses are so few and far between that he almost forgets that such a thing ever occurs. His is a profitable, common-sense sort of apiculture. The air-spaced, black-paper-covered hive has come to stay with him and many others; and its use is spreading.

Providence Co., R. I.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

National Bee-Keepers' Association will hold its 37th annual convention in San Antonio, Tex., Nov. 8, 9, and 10 Will you be there?

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Bee-Keeping as a Business for Women

Objections to bee-keeping as a business for women are very nicely met and answered by Mrs. Anna Botsford Comstock, of New York, in Gleanings in Bee Culture, who says:

> Two questions invariably "pop up" at us when this matter of feminine bee-keeping is discussed: One is, "Why shouldn't a woman keep bees?" and the other is, "Why should a woman keep bees?" Like most other questions, these may be answered more or less rationally with proper consideration.
>
> Taking the "why shouldn't" question first, we are bound to confess that nowadays there is no effective reason why a woman should not do almost anything that she takes into her enterprising little head to do. But quite aside from the consideration of woman's prowess, there are one or two reasons that might deter some of the faint-hearted fair from undertaking bee-keeping. There is no use of trying to gloss over the fact that there is a great deal of hard work and heavy lifting in the care of a profitable apiary. The hard work is really no objection, as most women of whatever class are at it anyway. But lifting heavy hives is certainly not particularly good exercise for any woman, although I must confess that I have never lifted half so strenuously when caring for bees as I used to on the farm when we moved the cook-stove into the summer kitchen, accomplishing this feat by our feminine selves, rather than to bring to the surface any of the latent profanity which seems to be engendered in the masculine bosom when taking part in this seasonal hegira.
>
> There are at least two ways of obviating this feminine disability in bee-keeping. One practised successfully by several women, is through the use of a Boardman hive-cart, which almost solves the problem if the bees are wintered out-of-doors, and don't have to be carried up and down cellar stairs; the other method is to get some man to do the lifting and carrying. It may be the husband, the father, the brother, the son, or the hired man; but as his work can be done at a time which can be planned for, it is not so difficult for the men of the establishment to give the help needed. I am sure my husband would say that I am quite enthusiastically in favor of the man solution of this problem; but his opinion does not count for much, because he loves the bees so enthusiastically that I have to beg for a chance to work with them at all, although he virtuously points out the hives to people as "Mrs. Comstock's bees."
>
> Another "shouldn't" reason might be that women are afraid of bee-stings. This falls flat, from the fact that women are not a bit more nervous than men in this respect. This year, when I was struggling to hive a swarm from a most difficult position, an interested man stood off at a safe distance in a most pained state of mind. He was a courteous gentleman, and he felt that it was outrageous for me to have to do the work alone, but he did not dare to come to my aid, and I think he considered my temerity in dealing with the swarm as almost scandalous.
>
> Anna Botsford Comstock.

There, does not that meet the objections in as racy a manner as could be desired? Is there any sort of sense in saying that a woman is more afraid of stings than a man? And is she at all likely to make any more fuss about the pain of the sting? Does a man or a woman make the most fuss about a toothache?

Really, the only valid objection for which there seems any sort of ground is as to the matter of physical strength. And doesn't many a woman exert more physical strength in the course of 24 hours than her liege lord, even though he be able to lift a greater number of pounds? The man who carries on bee-keeping extensively is tired out at the end of the day's work, not so much because of the exertion of any great amount of strength at a time, as of the continuance of it, and for real endurance, hour after hour, pit a woman against a man, any time.

While endorsing Mrs. Comstock's view that help can be had at the heaviest parts of the work, it may be pertinent to ask whether Mr. Man never gets help in the same way.

* * *

"Making Money by Keeping Bees"

Woman's Life, a journal presumably published in Ireland, contains an article on "Making Money by Keeping Bees," which, according to quotations in the Irish Bee Journal, shows that writers for women's journals in Ireland are not a whit behind their sisters in this country when it comes to substituting the imagination for actual observation in the apiary. Just a few items over which the editor of the Irish Bee Journal makes merry with genuine Irish wit, may be here given:

> "No apiarist is so greedy as to claim every section which the bees have made; some are always left in a frame in the center of the hive to supply the queen and her subjects with food during the winter."
>
> "During the long, cold months when flowers are conspicuous by their absence, the bees must be fed regularly with artificial pollen and with a stimulating syrup."
>
> "Sometimes, however, it is absolutely necessary to dispense with a swarm to prevent overcrowding, and when this is the case the top frame should be removed and the bees shaken off into a skep or bee-box and offered for sale, either privately or by advertisement, and should it be a good swarm, weighing something under 20 pounds—bees are always sold by weight—it is worth about a guinea."
>
> "The queen is usually kept in the center of the hive, shut off by the 'queen-excluder,' through which only the bees, whose duty it is to feed her, ever dare to enter."

There, can any Yankee sister beat that? Leave some sections in the center of the hives for winter stores! Practise stimulative feeding in winter! To prevent overcrowding, "dispense" with a swarm by shaking off something under 20 pounds—say a hundred thousand bees! Wonder how many pounds of bees will be left in the mother colony. Evidently it would not do to have too many such colonies in one place, for when 20 pounds are shaken off, they are to be put into a skep or bee-box and offered for sale. A good market for such prolific bees could easily be found in this country.

Neither does the article lack in pictorial illustration, for Editor Digges, evidently deeply impressed, says it is "decorated by a radiant girl in a pretty dress and sunbonnet, standing before 2 skeps, and gently feeding 11 flying bees with a sprig of double hollyhock."

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Storing Empty Combs

Theoretically, the room in which empty combs are to be stored should be perfectly free from mice. But, since it is usually impossible to exclude mice from the room, one must make a strenuous effort to exclude them from the supers or hives in which the combs are kept. If carefully piled after all entrances have been closed, this is not a difficult thing to do, although careful and precise work must be done that no cracks or uncovered places be left. A small hole will let mice in, and cause the loss of all the combs in an entire pile of supers. And it is surprising what damage a few mice can do.

Where one has a honey-house sufficiently large, the problem of where to store empty combs is readily solved

But many farmers who keep bees only in a limited way, do not have a commodious honey-house, and must, therefore, do the best they can without it. In this case, an upper room in some out-building is about the best place that can be found. Any room with a tight floor will do quite as well, of course, provided it is not used for too many other things, so that the supers will be constantly more or less in the way. Under these circumstances they would probably be frequently jarred or otherwise disturbed so that mice would gain access, or the combs become broken and damaged.

First, leave all surplus combs in the hive or super in which they belong. See that the ends of all frames fit down into the rabbets. Next, nail pieces of lath, or other thin lumber, over all entrances; then pile the hives, one over another, as high as convenient. Cover the top hive carefully. If the floor is not tight or smooth, boards should be laid over it, on which to set the piles. See that each hive or super sits evenly over the one below it, and make sure that no cracks or holes are left anywhere. Stored in this way in a suitable place all combs should come out in the spring clean and whole.

Few small bee-keepers value their empty combs as highly as they should. The old-time practise was to melt up every scrap of comb not in actual use for wax. But now no well-informed bee-keeper would melt up a comb that could be used again, as it is better understood how they are worth more in the hive.

It is estimated that from 10 to 20 pounds of honey are required to produce one of wax. Wax is simply the fat of bees, and in order to produce it an unusual amount of honey must be consumed. The amount varies according to conditions, just as the amount of corn necessary to produce a pound of tallow or lard varies under different conditions.—Family Herald and Weekly Star.

* * *

Placing Combs in the Extractor

When the uncapped combs are put into the cages of the extractor, they should be so placed that the bottom-bars go around first, for thus the honey is more easily thrown out, as it leaves the cells in the direction of the pitch given to them by the bees when they are building their combs.—F. G. Herman, in Michigan Farmer.

This is a fine point few have thought of. It is true in theory, but can not be carried out in a reversible extractor, where the combs go first one way and then the other, unless the crank is turned backwards after the reversing.

* * *

Ontario Crop Reports—Swarming

The Ontario Department of Agriculture, August Crop Bulletin, reports the following on bees and honey:

> The season has been rather a poor one for the apiary. Swarming was uneven, and, on the whole, unsatisfactory. Clover was a disappointment; basswood was better, but only fair; buckwheat promises well. The weather was too wet for best results at the gathering time, and it is estimated that the average yield per colony will be between 35 and 40 pounds. Bees are otherwise in a thrifty condition.—Editorial in Canadian Bee Journal.

The above will give an idea of the Ontario Report, as given by the Government Crop Bulletin. As I mentioned in this department some time ago, the conclusion that the excessive rains in some sections injured the crop is not logical, because medium dry and very dry sections suffered, if anything, worse than where they had much rain.

The way the undue prominence "swarming" is given in the Report, fits in with the popular and question-asking idea, is too good to let pass. Because more advanced bee-keeping looks on the most "regular" swarming, or any other kind, as "unsatisfactory" and contrary to the best interests of the bee-keeper. There is no profit in natural swarming to any one.

Southern Beedom

Conducted by Louis H. Scholl, New Braunfels, Tex.

Preparing for Winter

October is our last month, generally, here in Texas and the South, in which to care for our colonies for winter quarters. There should be a good supply of honey for winter stores. All weaklings should be united, this being most easily done by simply setting one weak colony on top of another weak one, leaving it to the bees as to which one will be the queen of the two.

At the last examination the honey-combs may be placed below and the empty ones removed or set on top. In our warmer climate this latter is hardly necessary, especially if some honey comes in.

* * *

Bee-Keepers are Preparing for the Fair

The Local Committee plans to entertain the National Association Nov. 8, 9, and 10.

Cent a Mile Rate On All Railroad Lines.

Such were the head-lines in the daily papers of San Antonio after the sessions of the Executive Committee, the Committee on Finance, and the Committee on Arrangements and Entertainment of the Texas Bee-Keepers' Association, which met in this city recently for the purpose of beginning preparations for the entertainment of the National Bee-Keepers' Convention, Nov. 8, 9, and 10. The meeting was a lively one, and many suggestions were offered to make the stay of the visitors a pleasant one.

The National Convention will be held during the time of the International Fair in San Antonio, and cheap railroad fares have been obtained, a cent a mile rate being given on all lines from all parts of the State. There will be a special day for the bee-keepers, known as "Bee-Keepers' Day," and the afternoon of the first day of the convention, Nov. 8, will be spent on the Fair grounds by the bee-keepers of the convention.

The bee-keepers' exhibits will be one of the attractions there. Although there was a shortage in the Texas honey crop, it is believed that there will be a creditable exhibit again this year, of bee-keepers' products. The Fair Association's catalog contains annually a splendid premium-list, and it has appropriated a sum of about $350 in premiums. To the bee-keepers it should be of especial interest this year to donate anything that they may have good enough to go on exhibition; besides, the premiums offered will pay well for the trouble.

The general arrangement of a preliminary program has been decided upon by the committee about as follows:

There will be a Welcome address by the President of the Texas Bee-Keepers' Association, welcoming the visiting bee-men to Texas; followed by another address of welcome to San Antonio, the person to deliver the address not having been decided upon. The general program will be taken up with routine business until noon of the first day, the afternoon to be spent at the Fair grounds.

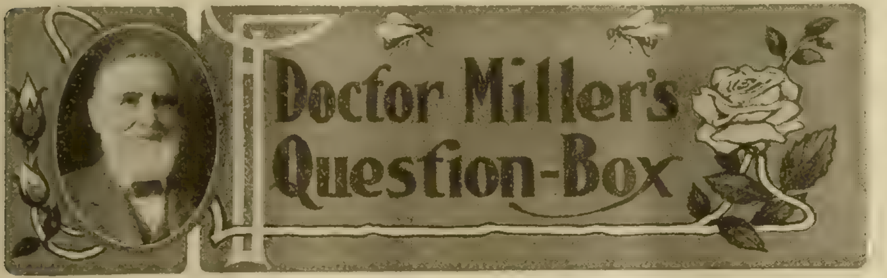
On the second day there will be morning and afternoon sessions of the convention until 4 o'clock, when there will be a trolley ride through the city free to the bee-keepers. At 6 to 8 p.m. a Mexican supper will be served free by the Texans to the National visitors. Of course, there will be fun for the Texans, for it is not believed that Dr. Miller, and the host of them, have ever enjoyed the pleasure of such a feast. (Your humble reporter does not know whether the "tender" visitors will be handed bills of fare or not.) At 8 p.m. a night session, including an address by Judge Pascal, of San Antonio, on "The Bee-Keeping Resources of Texas." It was also suggested that arrangements be made for stereopticon views and moving-picture lecture for this evening.

The third day has been left entirely open for sessions and the general program, to the choice of the National Bee-Keepers' Association.

A spacious hall has been secured for the meetings, just two blocks from the International and Great Northern Railroad depot. This hall is situated somewhat away from the main and noisy part of the city, and should be an admirable place for the convention sessions.

Hotel accommodations have been secured at the Grand Central Hotel, located just intermediate on the same street from the above-named depot, or it is one block from the depot, and the hall one block from the hotel.

Further particulars will be given next week.



Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Drones With Yellow Bands

This season I noticed some drones with yellow bands on them. Is this anything unusual? Ohio.

Answer.—It is nothing unusual where there is Italian blood; although the markings of the drones are not so uniform as those of the workers, the yellow appearing as blotches rather than bands. It may be that you have black bees, and so long as they remained black there would be no yellow on the drones. Then one or more of your young queens met drones from apiaries within 2 or 3 miles, said drones belonging to Italian or hybrid colonies, resulting in drones with yellow markings in your apiary.

Perhaps a Hunger-Swarm—Uniting Weak Colonies—Thick Syrup Uncapped for Winter Stores

I have only 3 colonies of bees, and they have been so weak that the moth have bothered them very much the past summer. I am feeding them now for winter. One colony is in fair shape for winter, but 2 are very weak, probably not enough bees to make more than one good colony. One of these swarmed out of the hive yesterday, but the queen was clipped, and so the bees came back. There were no moths in the combs, although there were a few—2 or 3—on the bottom-board. This colony has scarcely any honey in the hive, but some brood and plenty of pollen.

1. What was the cause of their swarming out?

2. Although these 2 weak colonies seem to have good queens, would it be best to unite them and then continue feeding for winter?

3. What is a good plan for uniting weak colonies in the fall?

4. Will bees winter on thick syrup put in the combs and left uncapped? Iowa.

Answers.—1. It looks like a hunger-swarm, the bees swarming out because out of honey.

2. Yes, it is better to make sure of having the united colony pull through the winter than to run the risk of having both so weak as to be lost. But if you practise wintering in the cellar, a weak colony will make it which would be pretty sure to die outdoors.

3. If there is any choice of queens, kill the poorest 2 or 3 days before uniting. Then take an empty hive, and put into it a frame from each hive alternately, using the frames that are best till you have your hive full. Another way is to set the hive you have made queenless over the other hive, a sheet of manilla paper between the hives, and a hole in the paper large enough for a single bee to pass through. In a few days you will find the paper thrown out in bits at the entrance and the bees united. Then you can reduce to one story, removing the extra frames.

4. Yes, but not so well as if they have time to cap it.

Foundation Splints of Wood and Broom-Corn

This season I decided to use splints to stay up the foundation in brood-frames, but I couldn't get them small enough to suit me. I could split them out of redwood very easily, as small as ⅛-inch square, but I believe you recommend 1-16. The ⅛-inch square splints make strong, straight combs, and no sagging of the upper cells of the foundation, as they do with the horizontal wiring, but the ⅛-inch splints are a little too big. I noticed that the queens skipped a good many cells where these splints were in the bottom of the cells.

I thought I had found a perfect substitute for both splints and wire in common broom-straw. So I put in several hundred frames with foundation, strengthened with 4 straws to the sheet; these straws were selected straight and all of a size as nearly as possible. They were placed in boiling wax and then laid on the foundation while hot, and also pressed into the foundation the same as wire. Those that were built out were the prettiest combs I ever saw, but the bees cut out the straws of about ⅛ of them, leaving slits in the sheets ¾-inch wide. Possibly it was the kind of bees that would account for it, for those colonies that kept the straws in made no attempt to remove them. There was a fairly good honey-flow at the time. The bees were low-grade hybrids. Can you guess what the trouble was? I would like very much to use the straws if I were sure that the bees would leave them in. They made no attempt to remove the splints. California.

Answer.—Your experiment is a very interesting one, and I don't know enough to be positive why you succeeded in some cases and not in others. I suspect, however, that the character of the bees had less to do with it than the condition of the straws of the broom-corn. Of course, you understand that in a splint of perfect broom-corn there is an outside flinty surface like glass, and if the splints were used hot enough when put into the foundation, there would be no outside coating of wax, and the bees would refuse to try to attach anything to the glassy surface.

Opposed to that view, however, is the fact, if I understand the matter correctly, that the matter went by colonies, each colony either making full use of the splints, or else refusing them altogether. Of course, it might be that in some frames you used the splints hot enough for the wax to run off, and in other frames cool enough for a coating of wax to remain, and that in some way you gave the right kind to one colony and the wrong kind to another; but that does not seem probable.

I have never noticed but that the 1-16 wooden splints were used alike by Italians and hybrids, but there is a bare possibility that it might be different with the broom-corn. In any case the splints of wood, 1-16 square, work so well and cost so little, that there is no very great need to seek for anything else.

I may remark in passing, that I have said that the splints were sliced, but I have been told that I am mistaken about that, they being sawed. Your splints ⅛ square took up so much room that one would expect that at least some of the cells over them would not be used by the queen. It is just possible that you would be able to have them ⅛x1-16, and if these were well coated and pressed flat into the foundation, they might work as well as the 1-16 square.

Your report seems to show that when you do get the splints to work right, the combs are exceedingly satisfactory. I think that will be the general verdict.

Bee-Gloves—Wax-Worms—Strange Bee-Noises

1. What kind of gloves do you think best for handling bees? Will bees sting through kid gloves?

2. Will the queen sometimes get through the queen-excluder?

3. What is meant by "splints" in frames?

4. How do wax-worms get in empty combs after being stored in a moth-proof box? I looked them over before putting them in the box, and a few weeks after there were worms in some of the combs.

5. On page 722, I notice some one from Wisconsin heard a strange noise from a colony of bees. I heard the same noise here some time ago, and it sounded to me like the noise that the gearing would make in machinery. I believe it came from the drones, as they were driven out by the workers.

6. Have you ever heard of "Prof. Jonkin and His Busier Bees," the man who crossed his bees with lightning-bugs? Iowa.

Answers.—1. Bees will sting through anything as thin as kid gloves. Buckskin does better, but is not always proof against stings. Rubber gloves are good, but uncomfortable. Pigskin is probably as good as anything, and not expensive. It has a disagreeable smell, especially when new.

2. If the perforations are just right, a normal queen ought never to get through. Some say that a virgin will get through because smaller than a laying queen. But I am of the opinion that the thorax of a virgin is as large before as it is after she gets to laying, and no matter how large the abdomen of a laying queen may be, it is yielding, and if the thorax gets through the abdomen will follow.

3. Pieces of wood 1-16 inch square and long enough to reach from top-bar to bottom-bar, boiled in wax and pressed into the foundation vertically in brood-frames to prevent sagging. They have the advantage over wiring that they allow the foundation to come clear down to the bottom-bar. If used when conditions are favorable, they allow the frame to be entirely filled with comb from top to bottom. If used when little honey is coming in, the bees, instead of building clear down to the bottom-bar, are likely to gnaw a passage next the bottom-bar.

4. The eggs were there, and hatched out after being shut up in the box.

5. I think you are the first one to mention such a thing.

6. I don't remember to have heard of Prof. Jonkin, but I have heard of bees crossed with lightning-bugs. But I sometimes have doubts.

Reports and Experiences

A Lingering Honey-Yield

We are having, and have had, a lingering honey-yield from fall weeds, that keeps the bees at work very beautifully. The best colonies add a little to their stores, and the poor ones get a living. C. W. DAYTON.

Chatsworth, Calif., Sept. 24.

Still Hot—Late Swarming

It is hot, and some flowers yet, but the bees do not seem to find them "juicy."

My previous record of late swarming was Sept. 5, if I remember rightly. This year advances it to Sept. 7. E. E. HASTY.

Toledo, Ohio, Sept. 26.

Bees Did Splendidly

Bees have done splendidly here this season. The honey-flow from cotton, heartsease, and smartweed, has been better than usual this fall. Goldenrod will not bloom for a couple of weeks yet. The bees work busily on it, but do not store much surplus.

J. W. K. SHAW & Co.

Loreauville, La., Sept. 26.

One Year in 20 Without Section Honey

I have kept bees for 20 years, and in all that time there was only one year without section honey. I always keep about 20 colonies of Italians, and for section honey I get 20 cents a pound; for extracted, 15 cents.

The American Bee Journal comes every Friday, and we love to read it; also to renew it. E. B. KAUFFMAN.

Cornwall, Pa., Sept. 17.

Bees Were Busy This Year

From 7 colonies I took 223 pounds of honey; 11 other hives contain honey which has not yet been taken off. I took off the last honey July 16. At that time there was over 100 pounds in the other hives that I did not take. I will report later on the fall crop. The bees have been busier this year than ever before. I got 12½ cents per pound for all that I sold. Sometimes for extracted honey I get 10 cents for each 12 ounces. J. L. PATTERSON.

Augusta, Ga., Oct. 1.

Effective Hive-Ventilation

As usual, I have been much interested and instructed by reading Mr. Dadant's article, on page 703, but a thought occurs to me regarding his statement as to ventilation that, while it may be old to him, may be new to many other readers. This is the way I do it:

I cut out a piece 1 by 3 inches in the end of the supers; over this opening I tack a piece of ordinary wire-screen, and over it I nail a piece of lath or other thin board at one end, the same size as the opening. The wire affords ample ventilation, and when too cold I simply move the cover over the wire, and the super is practically tightly covered. Besides, it enables one to see if the bees are active in the super or not. This method does away with the necessity of raising the brood-chamber or supers for ventilation; it entirely precludes the possibility of robbing, and tends to reduce swarming to a minimum.

During the warmest days last summer, and this year, so far, I have seen no undue masses of bees clustering at the entrance, nor has a swarm issued as yet.

I am pleased to report continued progress of the bees in storing honey in the supers, and have no doubt they will do so as long as the sweet clover yields. Why they seem indifferent to white clover this year I can not account for, unless it is that the recent rain has washed out all the nectar from their cups.

But how the bees did revel over my poppies! That sort of pollen must have a special attraction for them. Can it be possible that they are acquiring the "dope" habit, as some people use opium? I give the little workers credit for better judgment.

Just now my ornamental gourds are in blossom in the garden, and I notice the bees cover themselves as with a mantle with its bright yellow pollen.

Why do not all bee-keepers raise some of these interesting plants, so pretty, useful, and so hardy?

In looking over my bees I am agreeably surprised to note some very fat super-frames of nicely capped honey, which, as late as 2 weeks ago, were discouragingly bare. Bees are working hard, early and late, for both pollen and nectar, and the outlook is certainly quite pleasing. I sincerely trust all our fellow bee-keepers will experience a like refreshing that will insure at least plenty of stores in the brood-chamber instead of the prospect of having to feed their colonies over winter, as broadly intimated in many localities. While my surplus will not be great, it will be a long way better than nothing.

Chicago, Ill., Aug. 14. DR. PEIRO.

A Successful Bee-Keeper

Bees have done well this season. From 125 colonies, spring count, I secured 9000 pounds of honey, and increased to 200 colonies, all in good condition for winter.

I am having good success in disposing of my honey to the local trade, and am sure if bee-keepers would use a little more effort they would not need to ship honey to the large cities, help glut the market, and hold down prices. With the help of circulars and a little advertising I find it easy to dispose of my honey, and I see no reason why others can not be equally successful. Printers' ink does the business.

The "Old Reliable" is just fine, and to it I owe a large share of my success as a bee-keeper. I suppose I could get along without it, but I simply won't. We are too good friends to part, and every number is carefully put away and will be re-read during the long winter evenings. E. H. HANSELMAN.

Augusta, Wis., Sept. 13.

Non-Swarming—Over-Production of Honey

The honey-flow is fine just at present, but the honey-flows were very scant last spring and summer. About Aug. 12 our fall flow opened. The first honey the bees got was from the Maderia vine, then cow-peas came next, followed by the wild cucumber and Spanish-needle, and the asters are just commencing to bloom, so the flow is likely to last for 3 or 4 weeks yet.

Talking about Mr. Davenport's non-swarming secret, I think I have given it in one of my letters published recently, namely, replacing the old queen with a young one of the current year's rearing, together with plenty of room; that is, I use mostly 10-frame hives, and if I find that I have a queen that becomes crowded, I give her another super with full-depth frames with combs drawn out; then at the opening of the honey-flow I alternate; that is, I take the top hive-body and put it at the bottom, and the bottom one on top. This brings the brood directly under the sections, and the bees will go to work in them in a hurry, in fact, they will enter sections three times as quickly as they would in a one-story hive, because in a one-story hive the center of the brood-nest probably brings 2, at most, of the frames filled with brood to the top-bars, whereas, in alternating, you secure nearly all frames filled to the top-bars with brood. The queen has plenty of room to lay in the bottom hive-body, and, not being cramped, of course the bees have no notion of swarming. Now you may replace the old queen with a cell nearly ready to hatch; that is, with one that would hatch in from 24 to 48 hours, or you may give them a young laying queen. I prefer the latter, as brood-rearing will not be checked as it would in giving them a cell. In following this method you need look for no queen-cells, and any bee-keeper knows what a relief it is not to have to open hives and take out frame after frame to cut out queen-cells, besides the constant fussing with the bees, especially where one has 50 to 100 colonies to look after.

You must not wait till the bees get completely in the swarming notion, but attend to re-queening in time. I would like to have all who follow this method to report to the Bee Journal next year. I will further say that a neighbor has about 60 colonies, and nearly every one swarmed, while mine did not swarm at all.

Now as to over-production of honey, as Mr. Davenport says, I think there never will be such a thing, for the simple reason that about only one man in 10,000 will make a successful bee-keeper. Why, bless your life, I could sell 20,000 pounds of honey in a week if I had it. I also wish to say that Mr. Davenport's ideas are not progressive in the least. If he had a little world by himself, he could tell his secret in full to the trees, instead of giving the forest part of it and keeping the best part himself. JULIUS HAPPEL.

Vanderburg Co., Ind., Sept. 17.

Poor Season for Bees

This has been a poor season for bees around here. My bees have not done very well. It has been too wet for them. I will get about a quarter of a crop. EDW. McCOY.

Lima, N. Y., Sept. 10.

A "Pairing" System of Management for Honey

The comb honey man of to-day must answer for himself these 3 questions: How to get clean sections, full sections, and lots of sections. How to do this without swarming. And, lastly, how to accomplish these desirables at the least possible expense.

As to the first, everybody knows that the cleanest sections, both as to wood and honey, are not found over old brood-combs, and that to get full ones, and lots of them, the full strength of the colony must be kept up to the end of the season. But how to do all this without swarming is what everybody doesn't know. Lastly, any plan or system, in order that it may be profitable, must involve no change, at least no great change, of our present fixtures. The expense involved in the Aspinwall and Ferris hives and methods cuts the mass of bee-keepers out entirely. The past summer I worked on a plan which comes nearer satisfying every requirement than any I have tried before, and I give it, though not certain that it will always work well:

Every old colony is paired as early as possible with a nucleus formed in a shallow extracting super. (I use sectional hives). As soon as the young queen is mated, if the season is fully on, a full working force is added to the nucleus, either by shaking into it the bees from the hive with which it is paired, or by shifting the two. The nucleus will now be a comb-building colony, and will be kept at full strength by receiving bees from it at intervals throughout the season. No more supers will be used on the supporting colony, and its sole business will be to reinforce the comb-builders from time to time by having every comb shaken before the other, except that on which its queen is found. After each shaking, enough of its fielders will return to keep it in good working order, and at the close of the season, it would be well prepared for winter. Its old queen can then be removed and the other colony with its young queen placed under it.

Such, in its main features, is the plan on which I worked the past season with very gratifying results. An excessive swarming season might knock the whole thing out. But it will be seen that, granting any known theory, the old colony can't swarm, and, if the other does, all its brood can be given to the old one without affecting the super-work, because it will get all back when hatched.

It will also be plain that the daily hatching force of the comb-building colony, augmented from time to time by a reserve force from its supporting colony, should be able to do good work in the supers. Next season, I will try to make the addition of the reserve force automatic and constant by connecting the hives with one or more escapes. If this can be done, time and labor are almost eliminated, and it looks feasible.

In outlining my plan, I have purposely omitted all such details as will readily suggest themselves. E. W. Diefendorf.

Missouri.

May be Winter Loss from Short Stores

I have had to feed my bees at different times the past summer. I believe there will be quite a loss of bees next winter, as many colonies will go into winter quarters with scarcely any honey. This has been the poorest season I have ever known, and there will not be more than a quarter of a crop of honey in this section. Some bee-keepers are very much discouraged over the outlook, but I think perhaps what I lose this year I will at least partially make up next year. I am putting all the spare time I can in reading good bee-literature.

The American Bee Journal is always a welcome visitor in our home. It has been a source of inspiration to me. J. W. Stine.

Mt. Pleasant, Iowa, Sept. 17, 1906.

Spanish-Needle—Books on Botany

What is the name of the enclosed flower and its value as a honey-plant?

Please name some good books on botany—some that deal more with the habits and nature of flowers than with the long botanical names. Arkansas.

[The plant in question is Spanish-needle—Bidens bipinnata—and is closely related to the common beggar-ticks—a very troublesome weed about corn-cutting time, on account of the achenas or seed-pods sticking to the clothing and pricking the skin. The plant yields a limited quantity of fair nectar.

Some of the best popular books on botany are the following: "Nature's Garden," by Blauchau, $3.00; "Guide to the Wild Flowers," by Lounsberry, $1.75; "How to Know the Wild Flowers," by Dana, $2.00.—C. L. Walton.]

Cut-Leaved Eriocarpum

I would like to know the name of the plant enclosed, its characteristics, and medicinal properties. It is becoming plentiful here on the plains, growing 12 to 14 inches high, and as wide across the top of the plant, which is full of blossoms on which the bees work.

The honey crop this season in both Prowers and Bent Counties is very poor. Bees were slow in building up in the spring, and the honeyfl-ow was indifferent all summer. The brood-chambers generally are well-filled with winter supplies.

The bees swarmed very little the past season—only 2 or 3 percent. There has not been nearly enough natural increase to make up for last season's loss; so by next spring the number of colonies will be much less than last fall. John S. Semmens.

Prowers, Colo., Sept. 24.

[The plant in question is Cut-leaved Eriocarpum—Eriocarpum spinulosum—and ranges from North Dakota to Mexico, along the eastern side of the Rocky Mountains. The plant is related to the goldenrods, and probably is a honey-plant, although I find no reference to this anywhere. So far as I know, the plant has no common name or medicinal qualities. —C. L. Walton.]

A Self-Made Swarm

Has any one had an experience with bees like this? Between 2 strong colonies there was an empty hive, with no comb in it. When the young bees began to fly around, some of them went into the empty hive and they kept increasing in numbers. But they left at night until July 10; then a few of them stayed nights. Then they began to build a little comb and put in some honey. They now had increased to perhaps a quart. This was about the middle of July. Then I let a just-hatched queen run in and she began to lay about the first of August. When I saw they were going to make that their home I gave them a couple of empty combs. Before the young bees began to hatch they had increased to perhaps a quart and a half. They are now quite strong.

My best colony of bees for honey is what some would call hybrids. I have the goldens and the 3-banded Italians, Carniolans. and the Adels. The second best were the Adels.

Bees are doing very poorly. I will get about 40 pounds from one colony, and none from the most of the others.

A. P. Raught.

Round Lake, Ill., Sept. 12.

Blue Aster

I enclose sample of weed or flower, and ask its true and correct name, as it is known here by the farmers as "blue-devil," or "stick-weed." It is comparatively a new weed or flower in this part of the country, and, in my judgment, is one of the best for bees that we have, from the fact that it produces honey in the fall of the year. It is usually in full bloom by Sept. 15 or 20. This year I did not find the bees working on it until Sept. 23, and this is the 26th, and it is in full bloom. It usually remains in bloom until about the middle of October, and if the weather is warm enough for the bees to fly they get plenty of honey to winter on from this flower. It evidently came here in the clover seed bought by the farmers, as it usually follows clover, and seems to be adapted to the same kind of soil as clover. It grows from 1 to 4 or 5 feet, according to the soil. Stock seems to be very fond of it when in bloom, but do not seem to relish it much until it is in bloom. It blooms about 10 or 12 days later than the goldenrod in this part of the country. In looks, growth and general appearance it seems to belong to the Chrysanthemum family.

West Virginia.

[The flower is the common blue aster—Aster azurius—and along with other members of the aster tribe it furnishes bees with a liberal supply of honey-producing sweetness.—C. L. Walton.]

Langstroth on the
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CONVENTION NOTICES.

Illinois and Wisconsin.—The annual meeting of the Northern Illinois and Southern Wisconsin Bee-Keepers' Association will be held at the Court House, in Rockford, Ill., on Tuesday, Oct. 16, 1906. The meeting begins at 9 a.m. and lasts all day. All interested are invited to attend. B. KENNEDY, Sec.

Cherry Valley, Ill.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

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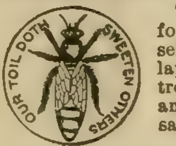
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Ladies'	.35
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Honey and Beeswax

Chicago, Oct. 8.—The receipts of comb honey are quite large and there is also a good demand for it, so that prices are well maintained at 15@16c for No. 1 to fancy; anything short of these grades is not selling freely and ranges from 1c to 3c per pound less; buckwheat, 12½c; dark grades, 8½10c. Extracted, white, 6½@7½c; amber, 6@7c; dark, 5½@6c.
Beeswax, 30c. R. A. Burnett & Co.

Toledo, Aug. 20.—The market on honey has not changed much since our last quotation. Bee-keepers seem to be holding their goods expecting large prices. Fancy white comb brings in a retail way 16@17c; No. 1, 15@16c, with no demand for dark. Extracted white clover, in barrels and cans, brings 6½@7c; but very little has been offered as yet. Beeswax, 26@28c.
Griggs Bros.

Indianapolis, Sept. 29.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Philadelphia, Sept. 20.—Comb honey has been arriving quite freely and the demand is quite brisk at this time. Prices seem to have an upward tendency. The outlook is for still higher prices. We would advise parties who have comb honey to ship, to send it in at once and sell it while the demand is on, for September, October and November are big honey months. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber. 12@14c. Fancy white extracted, 8@9c; light amber, 7@8c.
We are producers of honey and do not handle on commission. Wm. A. Selser.

New York, Aug. 18.—There is a good demand for new crop comb honey, but arrivals are very small as yet, and will continue so for a week or two to come. We quote fancy white at 15c; No. 1 white at 14c; No. 2 white at 12c; it is too early as yet for dark or buckwheat. Extracted is in good demand at 6½@7c for white, 6c for light amber, and 5@5½c for dark. Southern, common average grade, 50@55c per gallon; better grades at 60@65c. Beeswax firm at 30c.
Hildreth & Segelken.

Cincinnati, July 21.—We are having new comb honey to arrive and it finds ready sale; fancy white at 14½c; and No, 1 at 13½c. Extracted, white clover, in barrels, at 7½c; in cans, 8½c; amber, 5⅛@5¼c. Beeswax, 30c.
C. H. W. Weber.

Denver, July 30.—Some small lots of new comb honey coming in now; crop promises to be light. At the present we are selling No. 1 white at $3.25 per case of 24 sections; No. 2 at $3. We are paying 24c per pound for clean yellow wax delivered here.
The Colo. Honey-Producers' Assn.

Kansas City, Oct. 3.—The demand for comb and extracted honey is good. We quote No. 1 white comb, 24-section case, $3; No. 2 amber, $2.75. Extracted, white, per pound, 6½@7c; amber, 6c. Beeswax, 25c. C. C. Clemons & Co.

Cincinnati, Sept. 18.—The demand for comb honey is good; fancy and No. 1 selling freely at 15@16c; lower grades not wanted at any price. The market on extracted honey is quiet, as quantities remain unsold from last season. We quote amber at 5½@7c, according to quality. Fancy extracted white clover at 7½@8c. We are paying 29@30cfor choice yellow beeswax free from dirt. The Fred W. Muth Co.

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46th Year CHICAGO, ILL., OCT. 18, 1906 No. 42

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◆

Drop a pebble in the water—just a splash and it is gone,
But there are half a hundred ripples circling on and on and on,
Spreading, spreading from the center, flowing on out to the sea,
And there is no way of telling where the end is going to be.
Drop a pebble in the water—in a minute you forget,
But there are little waves a-flowing, and ripples circling yet,
And those little waves a-flowing to a great, big wave have grown,
And you've disturbed a mighty river just by dropping in a stone.

◆

Drop an unkind word or careless—in a minute it is gone,
But there are half a hundred ripples circling on and on and on,
They keep spreading, spreading, spreading from the center as they go,
And there is no way to stop them once you've started them to flow.
Drop an unkind word or careless—in a minute you forget,
But there are little waves a-flowing and ripples circling yet,
And perhaps in some sad heart a mighty wave of tears you've stirred,
And disturbed a life that's happy when you dropped that unkind word.

◆

Drop a word of cheer and kindness—just a flash and it is gone,
But there are half a hundred ripples circling on and on and on,
Bearing hope, and joy and comfort on each splashing, dashing wave,
Till you wouldn't believe the volume of the one kind word you gave.
Drop a word of cheer and kindness—in a minute you forget,
But there's gladness still a-swelling and there's joy a-circling yet,
And you've rolled a wave of comfort whose sweet music can be heard
Over miles and miles of water just by dropping a kind word.

—Selected.

THE AMERICAN BEE JOURNAL

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3d.—To enforce laws against the adulteration of honey.

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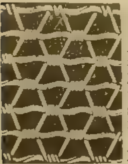

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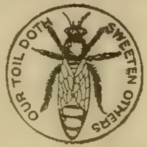
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Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. Beeswax Wanted for Cash.
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BELL BRANCH, WAYNE CO., MICH
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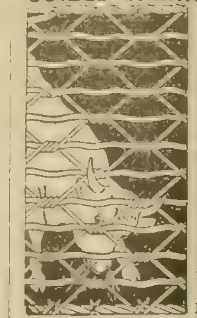

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That covers the whole Apicultural Field more completely than any other published, send $1.20 to

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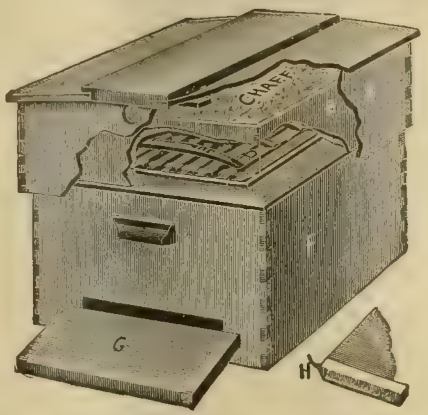
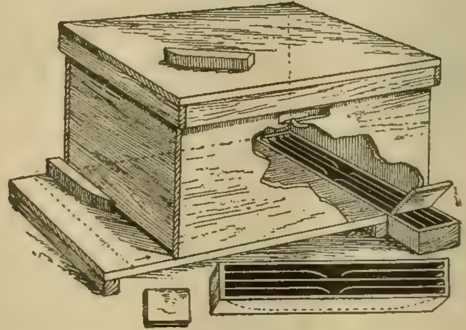
Liberal Discounts to the Trade.

PREPARE FOR WINTER





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This is one of the very best hives we sell, and for wintering bees, or for the production of comb honey, we do not know of anything better. It is double-walled, made of ⅜-inch lumber having lock corners. It is a trifle heavier than the regular one-thickness ⅞-inch hives, and will take the same hive-furniture, supers, brood-frames, covers, and all; and, besides, it has the advantage that it can be left on the summer stands the year round; and winter losses, if directions are followed, will be almost insignificant.

A good many suppose that double-walled hives are used only in winter; but in localities subject to cool nights and a very hot, burning sun during the middle of the day, they are none too warm for comb honey. Some of the best bee-keepers of the country are beginning to learn that such a hive, having well-protected supers, produce not only more but a better-filled comb honey. Complete prices on our catalog. Ask for it.

ALEXANDER FEEDER

We are prepared to furnish the Alexander feeder. We make them 19 inches long, so they may be used with either an 8 or 10 frame hive. With a 10-frame hive they will project 3 inches beyond the hive for feeding, and the block may be laid crosswise of the feeder, or be cut off as preferred. With the 8-frame hive the feeder projects 5 inches, and the block lies lengthwise. We soak the feeders in oil to preserve them and fill the pores to prevent the feed from soaking in. Price, finished, including block, 25 cents each. Ten for $2; 50 for $9.

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This is one of the most popular feeders we sell. Having the same outside dimensions as an ordinary division-board or brood-frame, it can be used in the brood-nest in the same way. Its construction will be apparent from the illustration. To feed, all that is necessary is to shove the cover or quilt back just far enough so that the opening in the top-bar is exposed. Through this pour the feed from an ordinary coffee-pot or teapot; close the hive up, and the bees are thus supplied without exposing the cluster, and without the use of smoke to drive the bees down. Price, nailed, 30 cents each; 10, $2.50. In flat, each, 20 cents; 10 for $1.80. Other styles other prices. Ask for catalog.

The Discount for October is 6 percent.
Write to Branch or Agent nearest you.

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*Wetumpka.......J. M. Jenkins

Canada
Toronto.......E. Grainger & Co.

California
*Fresno.......Madary Planing Mill
*Los Angeles.......California National Honey-Producers' Association

Colorado
Denver.......The L. A. Watkins Mdse. Co.
Fruita.......Fruita Fruit and Produce Ass'n

District of Columbia
Washington.......The A. I. Root Co.

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Savannah.......Howkins & Rush
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THE A. I. ROOT CO., Medina, Ohio

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor
CHICAGO, ILL., OCTOBER 18, 1906
Vol. XLVI—No. 42

Editorial Notes and Comments

Fewer Bees and Better Care

It seems just a little strange to find in the Bee-Keepers' Review, whose editor faithfully preaches the doctrine of keeping more bees, an article headed, "Keep Fewer Bees and Give them Better Care," in which H. A. Smith says:

> "I am convinced that if some men would try the experiment of replacing one-half of the number of colonies with a proportionate amount of *attention*. they would secure as much honey of a better quality and a better race of bees, and such things as foul and black brood would not gain such a foot-hold. The matter of attention is similar to that of overstocking a locality. If you have any more bees than you have attention and care to bestow, your bees are bound to suffer."

◆

Size of Larvæ at Different Ages

It is a matter of importance—sometimes of great importance—to be able to make a close estimate as to the age of a larva by its appearance in a cell. Some bee-keepers, especially those who do much at queen-rearing, may have a practical knowledge of the matter, but up to the present time, it is doubtful if anything has gone into print that would be of very great service in guiding the novice. Dr. E. F. Phillips, the Government expert, has performed a real service by giving data obtained from exact measurements he has had made.

When the little grub hatches from the egg, it lies curved in nearly semi-circular form, of such size that when a straight line is drawn from head to tail the said line is 3-14, or a little more than 1–5, the diameter of the cell. At 1 day old, the larva, although still retaining the semi-circular form, is now so much larger that the line drawn from head to tail is 5–14, or a little more than ⅛, the diameter of the cell. At 2 days old the larva lies coiled in a complete circle, the diameter of which is 6-14, or nearly ½, the diameter of the cell. At 3 days old, it occupies 10-14, or nearly ¾, the diameter of the cell.

A practical application of this knowledge occurs in giving larvæ from which to rear queens; give those so young that they do not yet form a complete circle. To be sure there is no change in feeding till the larva is 3 days old, but it has been shown that bees, when left free to choose, do not select larvæ so old, so no doubt the younger larvæ are better; and by the rule given they will be under 2 days old.

◆

Nominations for the National

We learn from the General Manager that the leading candidates for election in November, as officers of the National Bee-Keepers' Association, are the same as the present incumbents. This includes W. Z. Hutchinson as Secretary. In his Review for September he has this to say:

> So much has been said about the Association being run and managed in the interest of supply manufacturers, dealers, editors, etc., that I think none of these classes better be placed in nomination. Let the men nominated be producers, pure and simple. As for myself, I positively decline to accept the office another term, and I would like to see Jas. A. Green, of Grand Junction, Colo., elected as my successor. He is a thorough bee-keeper, bright, intelligent, well educated, and very ready with his pen, and I feel certain would fill the office with credit to himself and the Association.

We are not at all surprised at the position taken by Mr. Hutchinson, in view of what has been said in some localities concerning those who are responsible for the management of the National Association. There never was made a more senseless charge than that the Association was "run and managed in the interest of supply manufacturers, dealers, editors," etc. So far as we know, there has never been one connected with the management of the National Bee-Keepers' Association that made 5 cents out of it for himself. In fact, we know some of the officers who were out of pocket on account of it. But it is ever so. There will always be those who are either unappreciative, or else they want the offices themselves.

We wish to join with Mr. Hutchinson in nominating James A. Green, of Colorado, for the position of Secretary. Mr. Green is all right in every way, and, no doubt, would make a splendid officer. So far as we are concerned, we are perfectly willing that all of the offices shall be given to those who are honey-producers, and have no connection either with the manufacture of bee-supplies or publishing bee-papers. Of course, the National will not be managed any better if only honey-producers are at the helm instead of those who have helped to make and manage it up to this time; but if it will make a few disgruntled members better satisfied, and the proper producers can be elected, we certainly are in favor of it. The American Bee Journal has never had any "ax to grind" in connection with the National, but has always worked for the advancement of the Association, and expects to continue to do so. In all probability had it not been for the help of the various bee-papers in the past, there would not be any National Bee-Keepers' Association to-day, or at least not so large and successful an organization.

◆

Government Work in Bee-Culture

We recently received a copy of the "Annual Reports of the Department of Agriculture for 1905," in which appears the following paragraphs on the work of the Bureau of Entomology of the Department of Agriculture, so far as it relates to bees and bee-keeping previous to July, 1905:

> With the establishment of the Bureau organization at the beginning of the fiscal year, the working force in bee-culture was increased by the addition of an expert, two special field agents and a clerk. This addition to the force has made possible the taking

up of certain problems which have been advocated for a number of years, but which could not be worked out while he had but one person engaged in this line of investigation.

During the past year about 60 colonies of bees were purchased to be used for experimental purposes. The largest number was placed in an apiary located beside the Department of Agriculture building, at Washington, and about a dozen were put into an apiary located on the Arlington Experimental Farm, and there was, in addition to these two apiaries under the management of the home office, a small apiary of 12 colonies placed on the grounds of the Plant Introduction Garden at Chico, Calif.

During the past year seeds of certain plants, which are noted for their honey-producing qualities, were distributed to almost 500 bee-keepers throughout the United States. The object of this distribution was to find out to what extent it would be profitable to introduce these plants to different parts of the country upon a scale sufficiently large to make them of commercial advantage to the bee-keeper. Reports from these plants will be sent in the fall of 1905, and from these reports it will be possible to ascertain the proper course to be pursued in recommendations to bee-keepers of the country and in future distributions.

The subject of bee-diseases has been investigated to a certain extent, samples of diseased comb have been received from various parts of the United States, and pure cultures made of the bacteria which they were found to contain. The principal advantage so far obtained from this work has consisted in the information given to the persons sending such combs, as to the nature of the disease prevalent in their apiaries, and information as to the improved methods of treatment.

The work of distributing queen-bees of new races has been continued. The principal distributions which have been made are queens of the Caucasian variety, since this race has shown itself to be very superior on account of its very gentle disposition. Queens have also been distributed which were derived from other races, notable among these being the crosses obtained by mating Cyprian queens to Carniolan or Caucasian drones. There still remains a great deal to be determined as to the comparative value of different crosses, and it is hoped that the distributions made, together with the work which will be done in the future, will help to solve this very important problem in apiculture.

The work of introducing into the United States the giant bees of India and the Philippines has at last been undertaken, and Mr. Frank Benton, who is in charge of apiculture in this Department, sailed early in June to take up this work, which, of course, will not be completed for some months. The question of introducing this kind of honey-bee has been much discussed by the bee-keepers of the United States, and the requests which have come to this Department for help in solving this problem have indicated that the successful introduction of this bee will be very acceptable to the vast majority of the bee-keepers of the United States. This bee has practically never been kept in hives similar to those used for the ordinary honey-bee (*Apis mellifera*), but certain investigations conducted by Mr. Benton before he was connected with the Department of Agriculture, indicate the possibility of such domestication, and warrant the work which has just been undertaken relative to their introduction.

The amount of correspondence which has been received relative to apiculture has very greatly increased during the past year, indicating that this industry is becoming more and more popular throughout all parts of the country, and showing a very decided growth of this pursuit.

Several State experiment stations have taken up experimental work in apiculture, and have written for information to this office. Assistance has in all cases been given for this work, necessitating, in many cases, the expenditure of a good deal of time in the outlining of work which would be of particular value to the State in which the experiment station is located.

To facilitate the work of the office, and to have on hand information which is repeatedly called for, a catalog of the officers of the various State, county, and town apicultural societies has been begun, and will be completed very soon. There has also been started a list of various bee-keepers, supply dealers, bee-disease inspectors and queen-breeders, since requests for such information are sent to this office repeatedly.

Assistance has also been given to several persons engaged in more strictly scientific work, such as the furnishing of material for cytological preparations, the study of the development of the honey-bee, and certain problems connected with the investigation of the subject of variation.

Miscellaneous News-Items

Mr. Alson Secor, Associate Editor of Successful Farming, and son of Hon. Eugene Secor, so well known to bee-keepers, also dips into poetry sometimes, as the following indicates:

PIRATES OF THE AIR.

How does the little robber-bee
Employ her caustic powers?
She "toileth not, nor doth she spin"
Nor visit any flowers.

She sails around about the yard—
A pirate of the air;
If luckless you she chance to meet,
She nestles in your hair.

A show of fight, a groan of pain—
She's climbed your upper deck,
And ere you gave her one good swat
You "got it in the neck."

Des Moines, Iowa.

* * *

The National Convention at San Antonio, Tex., Nov. 8, 9, and 10, promises to be a great affair. The bee-keepers of Texas are planning some good things for all who will be present, as is indicated by the following from Mr. Toepperwein—a member of the Committee on Arrangements:

We have made arrangements for the National, Nov. 8, 9, and 10, and have selected Market Hall, in this city, to hold the convention. It will seat 1000 people.

We have selected Grand Central Hotel as headquarters for the bee-keepers. These people guarantee to accommodate 50 bee-keepers, and think they can accommodate 100. Whatever they can't accommodate they will find outside nice rooming places in the neighborhood of the Hotel. In this way all bee-keepers can have a chance to stay not far from the convention hall. The Hotel has 100 rooms, all very fine and furnished nicely. It is a brand new Hotel, and we have secured special rates for bee-keepers of 50 cents a berth, and 25 cents a meal. The restaurant is separate from the Hotel, but under the same management. I believe the bee-keepers will be highly pleased.

We have also planned a trolley ride and a Mexican supper. The San Antonio people will elect the sweetest lady between 16 and 20 years of age to be queen of the convention, and this lady will be introduced to the bee-keepers, and presented with a handsome gold watch on the stage at the Fair grounds.

Thursday, Nov. 8, is Bee-Keepers' Day at the Fair, and advertised that way by the Fair Association. I believe it would be a good idea to go ahead and advertise the convention so that we will have a good attendance.

UDO TOEPPERWEIN.

As nearly all of our readers know, arrangements are being made for a special car, leaving Chicago at 10:37 a.m., Nov. 6, and arriving in San Antonio the morning of the 8th, in time for the first session of the National Convention. The round-trip rate from Chicago will be $25, with $4.25 for berth two nights. We hope that all who can arrange to join the special carload will let us know in good time, so that we can reserve berths for them. There should be a sufficient number of bee-keepers east and north of Chicago to make the required number in order to secure a special bee-keepers' car. The Home-Seekers' Excursion tickets will be taken advantage of for the National Convention, and are good for 30 days from date of issue, Nov. 6.

Secretary Hutchinson has been working on the program for the San Antonio Convention, and will soon have it ready for publication.

The following letter referring to railroad rates to the National Convention at San Antonio, was received at this office recently, showing the cost of Home-Seekers' Excursion tickets from a number of points:

GEORGE W. YORK & CO.—

Gentlemen:—I have pleasure in advising you that for the annual convention of bee-keepers to be held at San Antonio, Tex., Nov. 8, 9, and 10, 1906, the Missouri, Kansas & Texas Railway will authorize a rate of one first-class fare plus 50 cents for the round-trip from Indian Territory and Oklahoma points, for the sale of excursion tickets Nov. 6, 7, 8, the final return limit Nov. 13.

On Nov. 6 there will be on sale Home-Seekers' Excursion tickets from St. Louis, Hannibal and Kansas City at the rate of $20 for the round-trip to San Antonio. From Chicago the rate is $25, from St. Paul and Minneapolis $27.50, from Des Moines $23, and from Omaha and Council Bluffs $22.50. From all these points tickets are on sale via the M., K. & T. Railway—a line with its own through trains over its own rails from St. Louis and Kansas City to San Antonio. The excursion tickets on sale Nov. 6, 7, 8, will be good 30 days from date of sale, and will, in addition, admit the stop-over privileges on both the going and return trip. This will enable the delegates to make a very delightful trip to the great "winter resort" of Texas, and at the same time get a better and more intimate knowledge of the great and growing Southwest.

W. S. ST. GEORGE.

We may say that at this date (Oct. 14) a number of bee-keepers have notified us that they desire to join us in the special car-load company, among them being the following:

President and Mrs. C. P. Dadant, Louis

Werner, Mr. and Mrs. F. L. Kimmey, Daniel Widicus, and John C. Frank—all of Illinois; Huber H. Root and Fred W. Muth, of Ohio; General Manager N. E. France, W. H. Putnam, C. J. Thies, Miss Mathilde Candler, and C. A. Hatch (with several others), of Wisconsin; Vice-President George E. Hilton, Secretary W. Z. Hutchinson, and G. A. Bleech, of Michigan; Geo. H. Adkins, of New York; Dr. G. Bohrer, of Kansas; and John C. Bull (with 3 others), of Indiana.

Some of the foregoing will get on the car when it arrives in St. Louis. Doubtless there will be others who will write us before the time to start. The car will hold over 50, so there will be room for all who will likely be able to go from this part of the country and along the line of the Frisco System.

* * *

Swarming—The National.—Mr. Wm. M. Whitney, of Lake Geneva, Wis., wrote us as follows on Sept. 21:

> Friend York:—I wish to pat Mr. Bevins on the back for what he says on page 799 respecting "Prevention of Swarming—How to Put on Supers," etc. He has hit the nail squarely on the head, I think. I, too, like occasionally to see a "big swarm" issue, and to have a "lot of big queen-cells," which, as a rule, give me better queens than any I can buy.
>
> People may talk of no swarming at all as much as they please, but there are seasons when it is impossible to prevent swarming entirely, or even to keep it within reasonable bounds. It is my belief that C. P. Dadant & Sons' method, which, I think, is considered by most practical bee-keepers good practise, is the best of which I have any knowledge to prevent swarming.
>
> Again, I wish to say that I agree with you entirely in what you say respecting the aid bee-keepers derive from the National Association. Not one penny has it helped me in the sale of my honey, but I would not exchange the benefits of the Association with the advanced bee-keepers for ten times what it costs to become a member. I think very, *very* much of my membership in the Chicago-Northwestern; but I feel that a good market for the product of the apiary depends upon my own efforts. As long as I am a bee-keeper I shall hope to retain my membership, however. The way one is benefitted by such associations are too numerous and too valuable to be ignored. Wm. M. Whitney.

The fact is, the National Bee-Keepers' Association has done, and is doing, a great work for bee-keepers, and at very little expense to the individual members. And it can be of even greater use in the future, if wisely managed.

* * *

"Notes from Canada, by R. F. Holtermann," is the latest new department in Gleanings in Bee Culture. The first instalment of the "Notes" is very interesting. Mr. Holtermann is a brother-in-law of Mr. Morley Pettit, who conducts "Canadian Beedom" in this Journal. We suppose there will be considerable rivalry between these brothers-in-law, to see which will be able to turn out the better department. As Mr. Pettit has about a year's start of Mr. Holtermann, he probably will be able to keep ahead for quite a while, at least.

* * *

National Bee-Keepers' Association will hold its 37th annual convention in San Antonio, Tex., Nov. 8, 9, and 10 Will you be there?

Contributed Articles

Honey Plants and Regions—Other Subjects

BY PROF. A. J. COOK

As all our long-time bee-keepers will remember, I tried extensive experiments along in the '80's to determine whether it would pay to practise artificial planting of honey-plants solely for honey. This was done in a careful, scientific way, and I feel sure that the conclusions at which I arrived, after several years' extensive planting, will never be disproved. I used the Rocky Mountain bee-plant, or cleome, Chapman's honey-plant, and some others. While there is no doubt that at some seasons there might be a gain, nectar-production at best is so erratic that we may be assured that it will never pay to plant with only honey in view. There are too many other plants, excellent for honey, which have other valuable use.

It will pay, however, to scatter desirable bee-plants along roadsides and waste-places, and no bee-keeper can afford to neglect such practise. In choosing plants for this purpose, we should aim to find out that they are very general in their production of nectar, having few "off" years; that the honey from them is of good quality; that they will persist without care; and that there is no danger that they will ever become a serious weed-pest.

As I recently came through Colorado and Utah, I saw very much more of the Rocky Mountain bee-plant, or cleome, than I have ever seen before. This shows that the bee-keepers are alive to their opportunities, and are scattering broadly this excellent honey-plant. Our friends of the arid regions of Arizona, Nevada, Utah, and Colorado may well see to it that not only this, but the yellow cleome, shall be scattered as widely as may be. It would also be well that mesquite should be widely planted.

I am led to this discussion by what I noted in the interesting apiary of our German friend Schultz, who lives a few miles out of Berlin, in Germany. The roadsides, and village and city streets in the near vicinity of Mr. Schultz, are well planted with the European linden and the honey-locust. Mr. Schultz informed me that these trees gave very bountiful crops of most excellent honey almost every season. It would be a great addition to our own landscape, if we had more trees along our roadsides. In such roadside planting we should always consider utility, and certainly no one should neglect planting of our honey-producing trees. The linden and the beautiful tulip of the East, and the eucalyptus of California and contiguous States, are good examples of this kind.

Mr. Schultz was also very loud in his praise of Phacelia tanacetifolia. This was an introduced plant which had been widely scattered in this place, and Mr. Schultz informs me that the amount of honey secured from this plant is almost past belief. Here we have a hint for our own progress. While we already have many excellent plants, there is no doubt that the United States Government might bring us others that would do for us what the phacelia has done for Germany.

It may interest the readers of the American Bee Journal to know that this same phacelia that is praised so much in Germany, is one of our very common wild plants of Southern California. It is not only very common, but very beautiful, and I have rarely seen it without having seen bees working thick upon its blossoms. It belongs to the great natural order Hydrophyllaceæ, which abounds in interesting species in this region. One of the peculiarities of many of the plants of this family, is that they show a scorpeoid infloresence. This mode of flowering produces a flower-spike which closely resembles a coiled worm or caterpillar. Some of the examples are so striking that they are almost startling to one who is not used to them.

Honey-Regions.

I was interested, a few days since, in reading one of the bee-papers, to note what a diversity exists in the honey-production of the present season. Few of the States have a maximum year. Some regions, like northern Illinois, have been an entire failure. Most regions, like Michigan and California, have not given a full crop. This shows that it is very wise to develop this industry wherever the natural resources permit.

It will be remembered by our readers that something over a year ago, as I passed across the continent, I remarked upon the vast areas of honey-plants where few if any bees were kept, and urged that it would be very wise if our Government would determine just what sections promised success to the bee-keeper. A few days since I came across the middle section of our country, and here again in many parts of that great central area I saw many bee-plants like mesquite, cleome, etc., and yet no bees. Here, again, then, we have an argument for such valuable research for our Entomological Bureau, especially the Division of Apiculture, that must prove of signal benefit to the bee-keepers of our country.

The present season in California has been rather disappointing. The rains were ample last winter, and we have been wont to feel that with abundant rains we could almost depend upon a good honey crop. Yet there are limitations even here. One comes from cold, dry wind. This is a handicap to the bee-keeper for two reasons: 1st, it is found that the flowers do not secrete in such cases; and, again, at such times the bees are apt to stay their habits of flight in gathering.

RURAL CLUBS.

There are few things that so promote rural industry as good farmers' clubs. Michigan well illustrates this fact. The influence of the Michigan clubs has been phenomenal. It is said that except for this club influence, the passage of the law by the last Legislature for direct primaries could not have taken place. It is just as certain that without this club influence the law for a change in taxation, forcing the railroads to pay a just proportion of the expense of Government, could not have passed. The passage of this law has secured for the State, during the present year, more than $8,000,000. There are few States in the Union where just such reforms are not greatly needed; and nothing can so conduce to this end as just such organizations.

In a succeeding number of this Journal I will give a full description of these clubs at their best, and show how they work in a way of even more importance than in influencing legislation or thickening the pocket-book. In our own section, here at Claremont, we have a good illustration of what these clubs may do pecuniarily for our people. Through our club we have developed our own telephone system which has now 1600 'phones, is very cheap, entirely up-to-date, and gives us a system which is hardly excelled anywhere. Indeed, if it is not to our satisfaction we are alone to blame, for we are "it." In a future number I will tell about this telephone system, what it has done for our people, what it has brought about, and what rich promise it gives for the future.

FARMERS AS BEE-KEEPERS.

Many of our readers will remember that I have often referred to my brother's apiary. I was with my brother for nearly a month the past summer. I asked him if he still found the apiary a source of profit. He said that now, as always, for the amount of time and money there was nothing on the farm that pays so well. Yet my brother has the name of being the "berry king" in his region. He tells me that his crop was fine this season, and that prices have been exceedingly satisfactory. Some days he has shipped over a hundred bushels, and yet he says, "My bees pay *best.*"

Claremont, Calif., Sept. 11.

How Many Colonies to Become Well-to-Do ?

BY G. M. DOOLITTLE

"I never knew any one to become well-to-do from the keeping of bees unless he kept a lot of them. It is so simple as to be almost self-evident."—W. Z. HUTCHINSON, in the Bee-Keepers' Review for 1903.

"Bee-keeping is not an occupation in which one can easily become wealthy. It can be depended upon to furnish a comfortable living, and perhaps enable a man to lay up a few thousand. Fortunately, however, the professional man's happiness bears little relation to the size of his fortune; and the man with the hum of the bees over his head finds happiness deeper and sweeter than ever comes to the merchant prince with his cares and his thousands."—W. Z. HUTCHINSON, in Gleanings in Bee Culture for 1906.

The above, coming from one who stands in the front ranks for apicultural progress, is well worth considering. I have done no little thinking in the matter, and this thinking has led me to ask the question at the head of this article. How many colonies are necessary that the keeper may become "well-to-do?" After any person has read all that was said in the matter from which the first quotation was taken, he can only conclude that in order to be well-to-do, a person must establish many out-apiaries, and number his colonies by the hundreds, if not by the thousands. The man or woman who keeps "only from 50 to 100 colonies in the home-apiary, spending much time in manipulation," is not "in it" at all along this well-to-do line. In order to become well-to do in the bee-keeping line, apiaries should be established along trolley lines, 3, 6, 9, 12, etc., miles in either direction from the home apiary, and an illustration is given of a man who kept an apiary 50 miles from home, visiting the same only four times during the year, and from which he realized $100 a visit. And the following is the "wind-up" used to influence all the readers thereof to "go thou and do likewise:" "Friends, do wake up to the possibilities for commercial success in our beloved pursuit."

When reading the above, visions, with out-apiaries strung out in all directions within a radius of 50 miles, went teeming through my head, each paying me $100 a visit, beginning with the first of April, when the bees were to be gotten out of winter quarters, and ending with the first of December, when the bees were to be placed in their "snug retreats" for winter again; and a summing up of the matter told me that such would bring me from $16,000 to $20,000 a year, which, with the interest thereon, would come nearly making me a millionaire, could I hold out in this matter for 35 to 40 years—a thing not at all out of the question as far as the years of a bee-keeper's life are concerned, for we know that bee-keeping is a healthful, life-giving pursuit, making old folks young, and keeping the young from growing old, especially where "Keep More Bees" is the motto on the wall.

Having these things all figured out in my "visions," till they were seemingly to become a reality, and having the million dollars almost within my grasp, all can imagine how ruthless was the awakening when I read the second quotation given at the commencement of this; and that from the same author who had sent me out on the road to "commercial success," with the million dollars only just beyond my grasp. Then a halt was called, and after halting I see an easier road to success, for now it was not a "well-to-do" success along the line of "commercialism," for "bee-keeping is not an occupation in which one can easily become wealthy," but a "well-to-do" success with "a comfortable living," and a "happiness" with the "hum of the bees" over my head—a "happiness deeper and sweeter" than could ever come to me with "keep more bees" in out-apiaries, and the mad rush after commercialism with its thousands and millions in sight, the same accumulating by the many $100 visits, which I might succeed in making during the 50 or 60 years of my allotted life.

And now I breathe more easily, but I am not entirely free from worry, for the question still remains, which is at the head of this writing, "How Many Colonies" must I keep that I may enjoy that happiness which comes to the man who hears "the hum of the bees over his head," which are "to furnish a comfortable living," so that I may be "well-to-do?" Who will answer this question for me? I can think of no one better able to do this than Dr. Miller. Will he venture out on a trial in this matter, for the readers of the "Old Reliable?"

To give him a few pointers, I will say that I know of a man who has been keeping bees in the State of New York for a quarter of a century or more—a man who has enjoyed the "hum of the bees over his head" during all that time, a man who has had a "comfortable living," and laid up a little besides, from what those bees have brought him in, above what he has laid out on them; and in talking with him a short time ago, and asking him if he considered bee-keeping a profitable pursuit, he said:

"That depends upon what you consider profitable. The average number of colonies which I have kept has been 70 each year. These I could care for with the same degree of care that I would give my garden to keep it free from weeds, so that it would give me the best results. I have had time to listen to the music of these bees; time to watch them as they came in with their various colored loads of pollen; and see them, to my delight, fall short of the entrance to their hives, with their loads of nectar from the clover, basswood and buckwheat blossoms; time to experiment with them, become acquainted with them, yea, love them, even, though at times they seemed unloving toward me. Then these same bees have built my home, clothed my back, put food in my mouth, given me conveniences to travel with, yea, given me about all it is possible for God to give any one out of any vocation in life, as far as personal comfort and happiness are concerned, together with something to advance His cause; and, further, an inventory of what I possess, beyond and besides that I have spoken of, would count up not far from $20,000. Now, to a millionaire, bee-keeping would not be considered a profitable pursuit, but as far as I am concerned, it is all I ask, it is all I want."

Upon asking him if he thought any one would do as well in choosing bee-keeping as a vocation at this time as when he commenced, he replied:

"Probably not. But he would have the same pleasure with the bees, if he loved them; the same pure and delicious sweet for his table; the same health and happiness, through this out-door life with God's creatures; the same comfortable living, unless his life was to be one of luxury; but he would probably fail somewhat when he took an inventory at the end of a quarter of a century or more."

Now, Dr. Miller, Mr. Dadant, Mr. Hasty—yes, any and all, not excepting Mr. W. Z. Hutchinson, if he has time to write—tell us through the columns of the American Bee Journal just how many colonies a man or woman should keep that he or she may be a "well-to-do" bee-keeper.

Borodino, N. Y.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

A Foreign Sister's Roof-Apiary

Madame Delessale, as reported in Elsass-Lothringischer Bienen-Zuechter, has an apiary on the roof of a 6-story building, centrally located in Strasburg within 30 steps of the noted cathedral with the curious clock.

Honey Lozenges

This is a French confection. In an enameled vessel melt one part gelatin in one part water, stirring well. When arrived at the state of a soft paste, add 4 parts of honey previously warmed, stirring lively. Take from the fire; add desired flavor and color, mixing carefully, and pour into a shallow dish lightly greased with best olive-oil. Then let dry a few days.

A "Gay" Bit of Bee-Verse

Here's a nice bit of verse, albeit the poet is somewhat astray as to gender, and his "hostile drones" are somewhat amusing:

"The careful insect 'midst his works I view
Now from the flowers exhaust the fragrant dew;
With golden treasures load his little thighs,
And steer his distant journey through the skies.
Some, against hostile drones, the hive defend,
Others, with sweets, the waxen cells distend;
Each in the toil his destined office bears,
And in the little bulk a mighty soul appears."
—Gay.

Apiculture in the Schools

T. Maguire suggests this in the Irish Bee Journal:

> "It ought to be practicable to make apiculture a prominent school subject—to have, at least, every rural school equipped with one or more hives, and to encourage, by fees, the study of the subject among the teachers, who could get periodical lessons and demonstrations from the County Instructor."

If the honey obtained from the bees belonging to these rural schools is to be the perquisite of the teacher, then all right; but if the extra burden of caring for the bees is to have no extra recompense, the Irish school ma'ams have a right to demur. Perhaps, however, Mr. Maguire has in mind the fair thing in that word "fees."

Yellow Sweet Clover Again

I wish I had here some of the men who fought sweet clover as a troublesome weed. I would like to show them my latest field of it—5 feet high, and still reaching upwards and outwards—a mass of golden bloom alive with bees and fragrant as the spicy odors of the Orient! If they were not convinced of the beauty and utility of the plant, I would take them next to a hill pasture where sweet clover has grown for a number of years. They would find it eaten as low as the little Dutch clover itself, but holding its own, and bravely blooming away so that it will seed the ground.

It is my experience that the yellow is not so easy to run out as the white kind when pastured, and I am convinced it has merit as a pasture plant. Our stock, from the poultry up, eat it with a relish.

I learned something new about this plant the other day. We have in our neighborhood a Syrian citizen—a man from Damascus. His young brother came over lately, and as they were driving past my place where the sweet clover grew rank by the wayside, the young man jumped out and seized a large handful that he might revel in its fragrance. It reminded him of *home*, he said.

The elder man told me that in his country they take the seed of this yellow sweet clover and put it with wheat and grind both together for flour. He says the clover seed is to give the bread a good flavor. I would surely be willing to try such flour if I could get some.

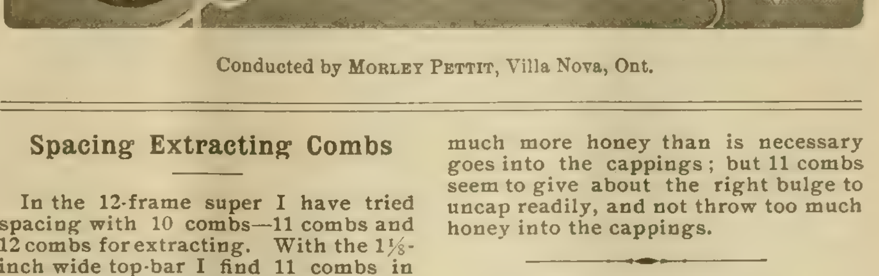
I found the first blossom of the season on May 22, this year, and the plant is now in its glory—full of bloom and maturing seed.

I have concluded to cut some of it soon, and offer for sale a limited quantity of the seed to those who wish to try it for themselves. The price is necessarily high, as it is considerable trouble to gather the seed, and it must be done at a time when there is a pressure of other work. Moreover, all patches cut now deprive the bees of the later bloom that would come by-and-by, but there is a distinct advantage to the buyer of this *early seed*. If sown within the next 3 months it will bloom next season.

Mrs. A. L. Amos.

Comstock, Nebr., June 23, 1906.

Accompanying the letter of Mrs Amos was a sprig of yellow sweet clover in full bloom. Those who have never seen a spray of it pressed would be surprised to see how pretty and graceful it is.—[We owe an apology to Mrs. Amos for not publishing the above sooner. It seemed to have become mislaid until now, but its value may not be lessened very much by the delay.—Editor.]



Conducted by Morley Pettit, Villa Nova, Ont.

Spacing Extracting Combs

In the 12-frame super I have tried spacing with 10 combs—11 combs and 12 combs for extracting. With the 1⅛-inch wide top-bar I find 11 combs in the super better than either 10 or 12. With 12 combs the capping is so set in that it makes very slow work uncapping. With 10 combs there is too much unevenness and bulging. When this is cut down even with the frame, much more honey than is necessary goes into the cappings; but 11 combs seem to give about the right bulge to uncap readily, and not throw too much honey into the cappings.

Bees and Pumpkin-Growing

A farmer in Elgin Co., Ont., who keeps a number of colonies of bees has, for a number of years, made a success of raising pumpkins. His crop each year is, perhaps, the largest in the whole country, and he finds the pumpkins an exceedingly valuable food for his hogs. He cooks them and feeds them with grain. The interesting fact is, that his neighbors 2 or 3 miles distant, who do not keep bees, can not raise pumpkins with any degree of success. The question is: Are the bees responsible? If so, it is another illustration of the economic value of bees as plant fertilizers, and should clinch the argument that every farmer should keep a few colonies of bees, not merely for the honey they produce, but for their assistance in fertilizing his crops. Fruit-growers and market gardeners are rapidly grasping the significance of this fact, and are interesting themselves in the subject. Is it not time that the general farmer should take the same enlightened view of the matter and learn to keep bees?—Weekly Globe.

Plantain Juice for Bee-Stings

A friend of the Farmer's Advocate says the juice of the broad-leaved plantain is an excellent application for a bee-sting. Crush some leaves, add a drop or two of vinegar to the juice, and apply to the sting. Has any other reader ever tried it?

Black Clothing and Bees

That the old idea that bees are irritated by black clothing is something more than theory has long been known to me, although a new demonstration of proof occasionally comes with interest. In the honey season, especially during extracting, when the bees are inclined to feel irritated anyway, the black overalls and shirts so many young men like to wear are found to be especially objectionable to the bees—so much so that we nearly always warn a new helper not to bring them. In fact, the new man generally gets his instructions as to the kind of working clothes to bring—blue overalls (white would be better if they did not soil so quickly), light-weight, light-colored print shirts, and plenty of changes of both.

But with reference to black clothing, J. L. Byer, in the Canadian Bee Journal, gives a recent experience:

> Only a short time ago it was my privilege to spend part of the day in an out-apiary belonging to one of Ontario's well-known bee-keepers. During the time I was there, although I walked all through the yard quite a number of times, hardly a bee offered to sting, and I concluded they were a pretty quiet lot of bees. During the day the owner came to the apiary, and together we started to go among the bees, when, presto! what a change. In an instant the bees were fairly swarming about the head of our bee-keeper friend, and it was more than funny (to the writer) to see the way he sprinted for cover to the honey-house. As I had been wearing a straw hat, and the bee-keeper was dressed in dark clothing and a black-felt hat, it struck me as a clear case of the bees' being aggravated by the dark garb, especially the black hat. At least, that was the only construction I could place on the matter, unless we accept the idea advanced by the victim—he "guessed they knew him, and were tryin' to 'even up' some old score."

Southern Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

An Invitation to Bee-Keepers

We Texans are looking for the National Bee-Keepers' Association to meet in San Antonio, Nov. 8, 9, and 10, with a great deal of pleasure; and in behalf of the Texas Bee-Keepers' Association, and the bee-keepers of Texas in general, I wish to extend a cordial invitation to each and every member of the National Association to attend.

I also wish to say to the bee-keepers of Texas, if you miss this opportunity to attend the National Bee-Keepers' Convention, from a bee-keeper's point of view, you will have missed the opportunity of your life. Let's all be present, and have a grand love-feast with the great bee-keepers of the country.

Yours for a good attendance, and a general good time. W. O. Victor,
Pres. Texas Bee-Keepers' Association.
Hondo, Tex.

Exhibiting at Fairs

Few bee-keepers fully realize the benefits that may be derived from exhibiting at Fairs. It advertises their business. It creates an interest among the mass of people who visit Fairs, and thus opens a way to a market for the bee-keeper's products. Too few of our bee-keepers take advantage of this matter; but we are now looking toward the time in the very near future when bee-keepers' exhibits will be more in evidence at Fairs. This subject is being exploited quite extensively in our journals lately, and the change for the better will come.

The Exhibits at San Antonio

It is hoped by both the Fair Association and the Committee on Exhibits of the Texas Bee-Keepers' Association, that there will be a creditable exhibit of apiarian products this year. The Fair Association offers over $350 in cash premiums for bees, honey, wax, and other apiarian exhibits, and the bee-keepers ought to take an interest in the matter. Mr. Udo Toepperwein is superintendent of the Bee and Honey Department, with H. M. Little as director. Letters of information, and regarding other matters concerning the apiarian exhibit, can be addressed to them at San Antonio.

At the last meeting of the Texas Bee-Keepers' Association in July, a committee of 5 was appointed, known as the Committee on Exhibits. The members are: Louis H. Scholl (chairman), of New Braunfels; Willie Atchley and W. H. Laws, of Beeville; C. S. Phillips, of Waco; W. O. Victor, of Hondo. It is the duty of this committee to take in hand the matter of exhibits in all its phases, and to develop this subject, looking after the object of increasing the exhibits at the Fairs in the State of Texas, deciding on suitable premium lists, etc., and in getting together apiarian products for exhibition.

A request is made to all bee-keepers who have anything for exhibition at the San Antonio International Fair, to correspond with any one of the above-named committee-men, or the one located nearest to them, and it will be a pleasure for these to look after what they may have.

Rules for Exhibitors.

The Fair opens Oct. 31 and closes Nov. 11. Every exhibit must be placed before 9 a.m. Oct. 31, and remain throughout the time of the Exposition, or the exhibitor will be barred from winning premiums. There will be no charge for entries and space, but the exhibitor must improve and decorate his space at his own expense. All goods must be unpacked immediately upon arrival, and empty cases removed from the grounds by and at the expense of the exhibitor; the exhibitor also bearing the expense of removing the exhibits at the close of the Fair. In the case of bee-keepers who wish to send exhibits, it may not be necessary for them to come with the exhibit, and it is requested that such first correspond with either Mr. Toepperwein or any of the other members of the committee. They will be glad to make it their duty to look after these matters, and bee-keepers should not hesitate to come forward with their wishes. It will be well to urge upon all, however, that steps in this matter should be taken immediately, as the time for placing the exhibits is nearing.

The Premium List.

The San Antonio International Fair Association has been very generous in offering premiums for exhibits of bees, honey, wax, and other miscellaneous objects pertaining to the apiarian industry; hence, the bee-keepers of the Lone Star State should make it their duty to do their part and furnish the "stuff for the show" that would be appreciated by the management. Here is the list of premiums:

	1st.	2d.
Golden Italian bees and queen, all in single-story observatory hives	$ 5	$ 3
Three-banded Italian bees and queen	5	3
Carniolan bees and queen	5	3
Caucasian bees and queen	5	3
Cyprian bees and queen	5	3
Holy Land bees and queen	5	3
Black bees and queen	5	3
Best display of bumble-bees	5	3
Best display of banded bees	5	3
Best and largest display of bees of various races in observatory hives	10	6
Best and largest display of queens of various races in mailing cages	5	3
Best case of white section honey, 12 pounds or more	3	2
Best case of light amber section honey	5	3
Best and largest display of section comb honey	5	3
Best display of special designs of comb honey	5	3
Best 12-lb. friction-top pails of white bulk-comb honey	3	2
Best 6-lb. friction-top pail of white bulk-comb honey	3	2
Best 3-lb. friction-top pail of white bulk-comb honey	3	2
Best display of bulk-comb honey	5	3
Best dozen jars white extracted honey	3	2
Best dozen jars light amber extracted honey	3	2
Best display of extracted honey	5	3
Best display of extracted honey in granulated form	3	2
Best sample cake of bright yellow beeswax, not less than 2 pounds	5	3
Best and largest display of beeswax	5	3
Best display of special designs in beeswax	5	3
Best display of fruit preserved in honey	5	3
Best honey-vinegar	3	2
Best instructive display in apiarian products and the various uses made of honey and beeswax	20	10
Best and largest display of bee-keepers' supplies	Diploma.	

San Antonio National—Nov. 8, 9, and 10

Car-loads of bee-keepers from the North, and East and West! With such an attendance from those sections, and a full quota from the South, the Texas National Convention should be a good meeting.

All bee-keepers of the South, who possibly can, should make it a point to be in San Antonio on these dates. Don't forget them! And all who do come should become interested enough to join, not only the National, but the Texas bee-keepers should join the Texas Association, too.

Mr. Hasty's
Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Bees Carrying Water at Night.

"Live and Learn" is a good motto. But as to some things, it is better not to learn too easily. D. J. Pawletta does not fully convince me that his bees bring water at night; but I gladly receive the preparatory lesson that might result in conviction later on. I suspect that bees coming out of the hive to die misled him. Also, it is nothing unusual to have occasional bees follow and butt at a lantern, in a semi-infuriated state of mind, on a hot night. Mine do so. And I have often wondered, seeing there are so frequently from one to three after my lantern, why it never happens that a whole tribe of them follow. What causes the limitation? It is bees of this kidney, I take it, that occasionally enter a lighted room some distance away. But how about his seeing bees *coming back* with water? That's the stickler. Just at present I can't do much better than this. With several hundred bees on the alighting-board and front, and light enough to observe them by, I can imagine that stir in the vicinity might stir some of them up to fly; and after flying awhile they might alight so regularly on the board as to deceive saints. Am quite sure I should want to observe the watering-place and see the bees load up and start for home. When he has done that, then it will be time enough for us to think about taking on the new idea. Page 723.

The Laying of Queens.

And now the matter of the laying of queens (somewhat akin to that discussed by the cats on the fence) is handled by Mr. Doolittle, the premier of us all. By the way, the consequences of being acknowledged first in any profession are not quite all of them pleasant. The "easy chief" might, we imagine, get tired of the thickly-plastered-on encomiums of beginners and those with small experience, while those with large experience are prone to keep silence when they agree, and argue pretty sharply when they disagree. And the present fellow with long experience (not saying anything about large wisdom) may be just a trifle in the "cat-on-fence" frame of mind. So here goes now.

"Hold yer hosses," brother, about your using as small a brood-chamber as any one in the U. S. You use 9 Gallup frames. I have kept an apiary of 100 colonies, more or less, for 27 years, a good third of them on 7 Gallup frames, and most of the others on 7 Langstroth frames. (My way of meeting the necessities of a location which has an ocean of flowers and a shocking tendency to have no honey in the flowers.) And even on 7 Gallup frames the total amount of brood reared in the two outside ones is rather small. Pretty lively work to get that 242,000 eggs a year into 5 frames. And are we to suppose that Doolittle is as far "off" about what goes on among the bees as he was this one time about what goes on among the bee-keepers?

Suppose we put it in this shape: What might the fellow with a tendency t'other way say in answer to Mr. Doolittle's figures? Well, the prime swarm takes the bees which emerge for 42 days, less a very moderate fraction that stay behind. This, according to his figures, would be 80,000, or nearly 18 pounds of bees. Allowing between 2 and 3 pounds of bees to stay in the hive, this calls for 15-pound swarms at the Doolittle yard. Some of us are not inclined to believe it. Fellow with tendency t'other way remarks that 4 pounds is a tolerable prime swarm, 5 pounds a good one, 6 pounds "real nice," and 7 pounds unusually large. (Presumably not unusual in yards where large brood-chambers are run.) And are not Mr. Doolittle's grand totals a bit like the enormous crops amateur and going-to-be farmers figure out from the product of a single select plant?

Or let's get at the thing in detail, dividing the year up into broods. Practically the broods overlap, but mathematically they can be considered as if separate. I would put the first brood in the latter part of February rather than in January. If so, the year has not far from 12 broods covering 252 days and leaving 113 days of interval. First brood 1000; second 2000; third 6000; fourth 12,000; fifth (first part of May) 25,000; sixth 25,000; seventh (June after swarming) 12,000; eighth 20,000; ninth 15,000; tenth 15,000; eleventh 8000; twelfth 6000. These figures are somewhat off-hand, but are checked by reference to the records of many actual censuses. The total of the above is 147,000, as against Doolittle's 242,000. The very common sort of locality, with no surplus in August and September, would tend to decrease the 147,000, while a larger brood-chamber than I use would tend to increase it. With a hand-to-mouth honey-flow we might expect, say, eighth 15,000; ninth 7000; tenth 5000; eleventh 4000; twelfth 2000—a falling off of 31,000 in all.

And one thing which I think Mr. Doolittle should mention before speaking so severely against superseding, is that some supersede not at all because they doubt the queen's capacity to lay, but because it is hoped that young queens will be some help in the struggle against the swarming nuisance. It does not take so much time or cash to have a young queen in each hive that one *must* let them serve until they fail. Page 735.

Hive Roofs and Shade.

If Mr. Dadant has kept an apiary in 15 different spots of widely varying sort, manifestly he is qualified to speak of shade and shelter. Water-tight hive, with movable and much larger roof above it—never mind if it isn't quite water-tight — seems to be his finality. Cheap, thin stuff to be had by cutting up boxes good enough for the outer roof, which might be called a shade-roof, or a fly-away. And here's a striking sentence very likely true: "We have more need of a rain-proof roof in a shaded apiary than in one which is exposed to the broad sunlight." Page 735.

Convention Proceedings

NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

[Continued from page 845.]

HONEY DEALERS AND CARLOADS OF HONEY.

"Why do honey-dealers ship carloads of Colorado and Cuban honey to commission men, to a white clover market?"

Mr. Hershiser—They do that to take advantage of the good market which the clover honey has made.

Mr. Muth—That question is wrong, because they don't ship on commission.

"Why don't the honey-producers and sellers get together, and then do business?"

Mr. Wheeler—I think they are together.

Mr. Muth—They do.

"Why do bee-keepers ship their honey to commission men?"

Mr. Muth—Because they know no better.

Mr. Taylor—Because they haven't a cash buyer.

TAKING BEE-PAPERS.

"Should a bee-keeper take more than one bee-paper?"

Voices—All of them.

PREVENTING BEES FROM "DRIFTING."

"What is the most desirable position to place hives in the yard to prevent 'drifting,' especially when setting them out in the spring, or placing them for swarming?"

Mr. Hershiser—The term "drifting" means where bees are set out from the cellar, when they take their first flight, when they come back they are likely all to settle in the most convenient place.

Mr. McEvoy—In many places in Ontario that happened last spring, in the front rows, with the majority of the bees. If the rows had been kept back farther from one another it would have been better.

Pres. Dadant—I think you have more drifting because you don't pay attention to putting them back in the same spot. If you put the bees back in the same spot where they were before the winter, you will have very little trouble. Put the covers on the stand and bring the hives back to that spot.

Mr. Huffman—I had some trouble last spring. The day I set them out it was a nice, warm day, but it was windy and they went to the south end of the yard. I couldn't prevent it.

"Will bees drift when returned from the cellar to the same stands?"

Mr. Hershiser—I asked that question in order to get a chance to answer it. I moved my bees about ¾ of a mile and placed them in the cellar, and when I placed them out again they were set right near the places where they had been wintered. I found last spring that my bees drifted very badly, and it wasn't because they were not returned to their original stand.

Mr. Taylor—I don't think there is any difficulty in preventing that drifting when you take them out at the right time. Never take your bees out when it is warm. That is contrary to what is talked of, but I don't practice it any more. I take them out when it is rather cool—too cool for them to fly, a little before soft maple. At all events, take them out when it is a little cloudy and cool, so that they will stay in their hives; and when they come out they will come a few at a time and won't fly far, and will learn the new location.

FUMIGATING FOUL-BROODY COMBS.

"Has fumigation of brood-combs exposed in a tight room ever been tried on foul-broody combs with formaldehyde?"

Mr. France—Yes, and as a rule not successfully.

Mr. McEvoy—It will never be a success in an apiary.

STOPPING LIES ABOUT COMB HONEY.

"How can we best stop or prevent lies about manufactured comb honey?"

Mr. Muth—Don't try to argue with foolish people and foolish reports. Say nothing.

Mr. Stone—I have never found a better way to beat that lie than just to explain to them the difficulty of the rolling out of the foundation comb, and then ask, How you are going to roll out a cell an inch deep, and as fine as silk all around?

HONEY OOZING FROM MASON JARS — FOR NATIONAL MEMBERS.

"What causes honey to ooze from the common Mason fruit-jars when they are not filled quite to the top, and are kept level?"

Mr. Hershiser—Capillary attraction.

Mr. Arnd—I think by screwing down the top it compresses the air and forces it up through the rubber.

"What does the National Bee-Keepers' Association do, or what is it going to do, for members of such associations who pay half their dues to the National?"

Mr. Holekamp—In my work in our State I have sent out many hundreds of circulars asking bee-keepers to join our association, and I have received many and many a letter in which the question was asked, What are you going to do? What do we get for our money? I have answered those letters to the best of my ability. Formerly the National Association held out the inducement that we would defend the bee-keepers against unfair prosecution. A resolution was passed that we pay only half the expenses of defending the bee-keepers in such cases. I put in that question to find out what could be done for them, because it is certainly of great importance that these bee-keepers can receive an answer which would bring in applications. We have protection that is worse than nothing to them. If a plain bee-keeper in a town must pay half the expenses of defending himself, it is better for him to pull out.

Mr. Stone—The question is put from the wrong thing. The man that pays the dollar has become a member of the National, and is the one that ought to have asked that question, because the one that joins the State Association and pays half a dollar in the State Association, and half a dollar in the National, and gets the benefit of the State Association, gets as much in the National as the one that pays his dollar.

Mr. France—The point Mr. Holekamp wanted to bring out was this: When A gets into trouble with neighbor B, and gets into a lawsuit now, the Association asks him to pay one-half of the costs to get him out of it.

Mr. Stone—Does he, by joining the National, get fully paid for the defence?

Mr. Taylor—There is no difference between them.

Mr. France—As a word of explanation in that line, when this was first started the Association over-reached what it should have done. It did pay every dollar of it, and we foresaw that it was going to be ruinous to the Association, inasmuch as it had the record of never losing a case, and our members were over-stepping their privileges with their neighbors, and were doing things they would not have done had they not been members of the Association. I submitted it to the Directors, and in order to keep that class of our members from further getting themselves and all of us into more of those troubles, we decided to let them pay part of that. Dr. Miller's motion at that time came up, and was passed to let him pay half,.and I want to say it has reduced the expenses of the Association a lot, and stopped a good many promising lawsuits. The Association is doing, as it has from the beginning—all possible to protect and defend every member attacked in any unjust or illegal way, with instructions that we pay not to exceed one-half, or over $100, without permission of the Board of Directors; and the expenses on any case not to run up to over $200.

On the other hand, that is only one of the things that the Association has been doing. It hopes to continue to help market the honey, and to get better packages to market it in. I found to my sorrow that we have not a good standard for honey in the United States. On that point, I got samples of 84 kinds at St. Louis last year, and had to pack them before they were all in the shelves, to save them. I could have sold that lot of samples and realized from them a little profit, but I said, No, I have made arrangements to divide those 84 samples and submit them to three of the best chemists in the United States, one of them being in the United States government department. They know them by a number. We will have, in time, a chemical analysis by 3 expert chemists, of 84 kinds of honey. That is an analysis for the purity of the honey. From the reports I have got in now, there is over 11 percent of difference. The worst of all was from a sample of honey that has been held for a term of years.

Mr. Hershiser—I would like to know from Mr. France whether there are many people who decline to join the Association because the Association does not extend full protection to them in case they get into trouble. I would like to ask, further, if that is the case, if it would not be possible for the Board of Directors to use their discretion as to whether a person is entitled to any protection or not, instead of limiting them to one-half.

Mr. France—The motion defines this, but I was instructed to allow a variance according to the individual case. In reply to the other part of your question, Have we gained or lost members by this change in the line of paying one-half of the members' costs? I desire to say we have gained two members where we lost one. Many of them said, I believe that is a good thing; the bee-keepers will be a little careful as to what they are doing.

Mr. Taylor—I may say in partial answer to Mr. Hershiser that in case of necessity the Board of Directors would pay more than one-half of the expenses. It depends upon the case. They can use their own discretion.

On motion, the convention closed at 10 o'clock p. m., to meet at the call of the Executive Committee.

Moore's Strain of Italians

AS RED-CLOVER WORKERS

Wm. S. Slocum, Newport, R. I., writes:

"My friend, W. O. Sweet, West Mansfield, Mass., asked me about 2 years ago where he could get good queens, and I referred him to you. To-day he called on me and said he noticed the colonies with your queens were storing much faster than others. He went immediately to his red clover field, and saw bees working there freely."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders **By Return Mail**, and shall probably be able to do so until the close of the season.

J. P. MOORE, R.F.D. 1 **Morgan, Ky.**
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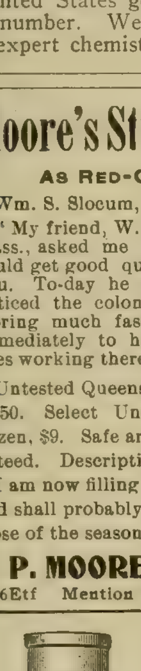

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Standard Bone Cutter Co., Milford, Mass.
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CONVENTION NOTICES.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

Ontario.—The annual meeting of the Ontario Bee-Keepers' Association will be held in the York County Council Chamber, Toronto, on Wednesday, Thursday and Friday, Nov. 7, 8 and 9, 1906. Hotel accommodations can be had at the Patmer House, $1.50 per day; or $1 per day at the Albion Hotel. We are expecting to have a good convention. The program is to be one of the best. During the same week the Ontario Horticultural Exhibition will beheld. This show of fruit, flowers, honey and vegetables is acknowledged to be well worth visiting.

We extend a very cordial invitation to any American bee-keeper that can attend, to take part in the discussions. Single fare will be given from all points in Ontario by the different railroads. W. COUSE, Sec.

Streetsville, Ont.

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50-ft. Heavy 1-in. Hose.

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Select Untested Queens, $1. Tested Queens, guaranteed to produce 5-banded bees, $2.50 each.

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Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES,
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200 Colonies of **BEES** in Northern Michigan (Gladwin Co.) They are in chaff hives. Or, if not sold soon, want a good man to manage on shares. **E. M. JOHNSON, Blue Mounds, Wis.**
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To buy 150 to 200 **BROOD-COMBS** in frames used in dovetailed hives. Must be fancy combs—no drone-cells. Let me know your price.

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Until May 1. Big stock of Dovetailed Hives and Marshfield Sections to draw from. **FREE**—a year's subscription with order amounting to $15 or over. Send for 32-page Illustrated Catalog—free.

W. D. SOPER (Route 3) **Jackson, Mich.**
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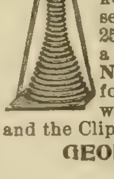

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us **One New** subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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Golden Italian or Red Clover Queens **by return mail.** Untested, 75c; Select Untested Queens, $1; Tested, $1.25; Select Tested, $2.25. Full Colonies in up-to-date hives, and Nuclei, for sale.

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This engine is **no experiment**, but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

Our igniter and mixer are of the most simple and reliable character. The gasoline is always properly vaporized and the igniter point never comes together unless a spark is required.

The fly ball type of governor is used, which automatically controls the exhaust, igniter and the gasoline; it also allows the speed to be changed from 100 to 600 revolutions per minute while the engine is in motion—**a very superior feature.**

LION GAS OR GASOLINE ENGINES are simple in construction and

EASY TO OPERATE

They are used for all purposes where power is required for operating private electric-lighting plants, small factories, printing offices; farm machinery, such as cream separators, feed-grinders, corn shellers, wood-sawing machines, etc., and for a thousand and one other purposes.

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When writing, please **state definitely** for what purpose you wish to use this engine and whether gas or gasoline is to be used for fuel. **This information is very important to us.** Please remember we send the engine, **not the engine agent.**

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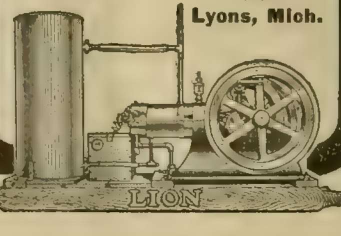

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BEES
Something New.
Something You Want.

Our specially prepared Gloves soften the hands and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff We furnish them without armlets or sleeves for using in sweeping, gardening or general housework, driving or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white.

All the points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail, or with other goods, at the following low prices:

Bee Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies..... .35
Men's Gauntlets, fleece-lined.................. .35
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Ladies', unlined, for wearing at night or during doing light housework................ .40

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JAMESTOWN, N. Y.

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Honey and Beeswax

CHICAGO, Oct. 8. — The receipts of comb honey are quite large and there is also a good demand for it, so that prices are well maintained at 15@16c for No. 1 to fancy; anything short of these grades is not selling freely and ranges from 1c to 3c per pound less; buckwheat, 12½c; dark grades, 8½10c. Extracted, white, 6½@7½c; amber, 6@7c; dark, 5½@6c. Beeswax, 30c. R. A. BURNETT & CO.

TOLEDO, Oct. 8.—The market on comb honey remains firm. The demand is fair, and the receipts equal to the demand. Fancy white comb honey in a retail way brings 15@16c, with very little demand for low grades. Extracted white clover in barrels brings 7½@8½c; cans the same. Beeswax, 26@28c. GRIGGS BROS.

INDIANAPOLIS, Sept. 29.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds. WALTER S. POUDER.

PHILADELPHIA, Oct. 8—Comb honey has been arriving quite freely, and the demand is quite brisk at this time. Prices seem to have an upward tendency. The outlook is for still higher prices. We would advise parties who have comb honey to ship, to send it in at once and sell it while the demand is on, for September, October and November are the big honey months. We quote: Fancy white comb, 16@18c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted, 8@9c; light amber, 7@8c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Oct. 9.—The demand for comb honey is very good, especially for fancy stock, and arrivals are now quite heavy. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12@13c; buckwheat at 11c per pound. Extracted is in good demand and prices are somewhat firmer. We quote California white at 7½c; light amber at 6½@7c, and amber at 6c per pound. Southern honey in half-barrels in good demand and finding ready sale at from 55@65c per gallon, according to quality. Beeswax is somewhat weaker, and 30c is about top price. HILDRETH & SEGELKEN

KANSAS CITY, Oct. 9.—The demand for both extracted and comb honey continues good; the supply is light. We quote No. 1, white comb, 24-section cases, per case, $3; No. 2, $2.75. Extracted, white, in cans, 7 cents; amber, 6@6½c. Beeswax, 25c. C. C. CLEMONS & CO.

CINCINNATI, Sept. 18.—The demand for comb honey is good; fancy and No. 1 selling freely at 15@16c; lower grades not wanted at any price. The market on extracted honey is quiet, as quantities remain unsold from last season. We quote amber at 5½@7c, according to quality. Fancy extracted white clover at 7½@8c. We are paying 29@30cfor choice yellow beeswax free from dirt. THE FRED W. MUTH CO.

Headquarters for Bee-Supplies
ROOT'S GOODS
At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

Will buy or sell you . . HONEY If you have any to sell, . . .
mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves

Buckwheat Honey!

I have about 5,000 pounds of Buckwheat Honey for sale. This honey was all sealed over before it was extracted, and is rich, ripe, and thick—far different from the thin, green, rank stuff often found on the market. A sample will be sent on request.

The honey is put up in 60-lb. tin cans, two cans in a case, and is offered at 6 cents a pound.
W. Z. HUTCHINSON, Flint, Mich.

WANTED
To buy for cash, Fancy Comb and Extracted Honey. R. A. HOLEKAMP,
31A13t 4263 Virginia Ave., ST. LOUIS, Mo.
Mention Bee Journal when writing.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
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QUOTE US We Buy Car-loads of
Extracted Honey!
THE FRED W. MUTH CO., 51 Walnut St., Cincinnati. O.
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WANTED TO BUY AT TOP PRICES
WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
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HONEY! HONEY! HONEY!

Have you any to sell? If so, see us before selling. We pay highest Market Price for both Comb and Extracted Honey—also Beeswax. . . .

GRIGGS BROTHERS, 521 Monroe Street, Toledo, Ohio
Mention Bee Journal when writing.

HONEY

HONEY

HONEY

Instead of having honey offered us by bee-keepers this season, we have had enquiries for good honey from nearly every quarter. We have secured an unusually fine lot of

WATER-WHITE ALFALFA HONEY

packed in 60-pound cans, two in a case. We offer the same at the following prices:

One 60-pound can	8½ cents per pound
Two 60 pound cans	8 " "
Ten 60-pound cans or more	7½ " "

This honey is giving entire satisfaction and is selling where we have previously furnished White Clover. Sample 5 cents.

DADANT & SONS, HAMILTON, ILL.

(We are giving liberal discounts on **Bee-Supplies** now.)

HONEY

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

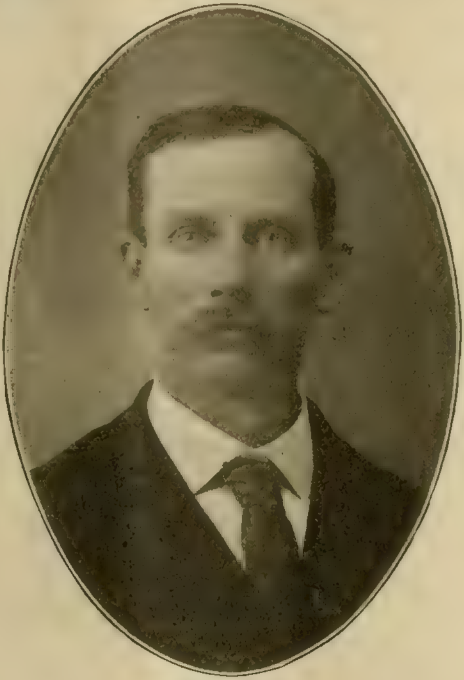
HILDRETH & SEGELKEN

265 & 267 Greenwich Street - NEW YORK, N. Y.

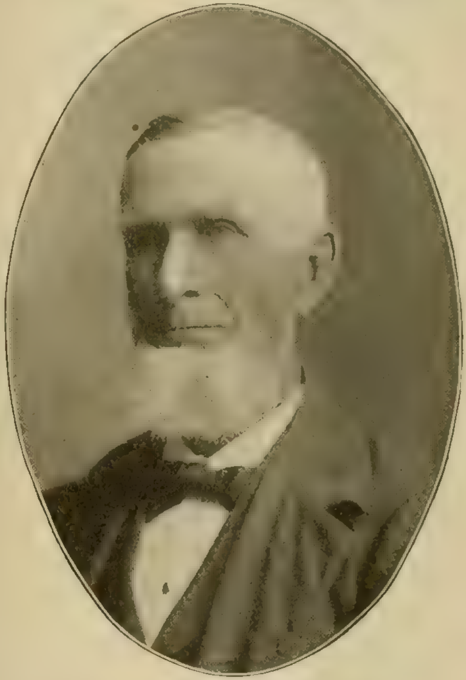
30Atf

AMERICAN BEE JOURNAL

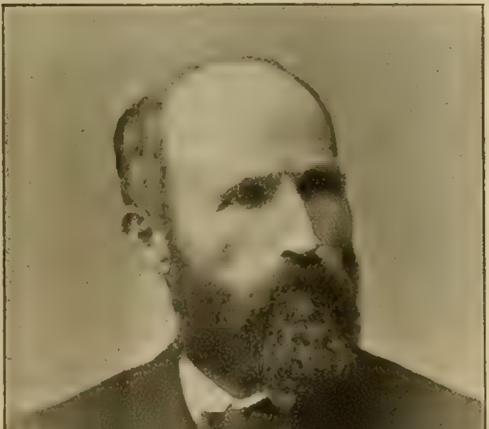
46th Year CHICAGO, ILL., OCTOBER 25, 1906 No. 43



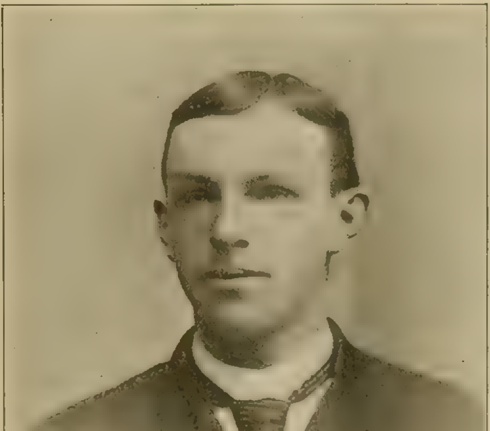
E. D. Woods, Secretary,
Western Illinois Bee-Keepers' Association.



Alvah A. Reynolds, Vice-President,
Western Illinois Bee Keepers' Association.



Edwin Bevins,
Contributor of the American Bee Journal.



J. E. Johnson, President,
Western Illinois Bee-Keepers' Association.

(See pages 894 and 902.)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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14 lines make one inch.
Nothing less than ½ inch accepted.

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These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

ITALIAN QUEENS

Too late to deliver them? Yes! But not too late to **begin to get ready for next spring**! I give personal attention to correspondence. My queens are guaranteed. Write at once to

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R.F.D. 3.

FENCE *Strongest Made*

Made of **High Carbon** coiled wire. We have no **agents.** Sell direct to user at **factory prices on 30 days free trial.** We pay **all freight.** Catalog shows 37 styles and heights of farm and poultry fence. **It's free.** Buy direct. Write today

COILED SPRING FENCE CO.
Box 89 WINCHESTER, INDIANA.

Mention Bee Journal when writing.

SOUVENIR POST CARDS
VIEWS OF CHICAGO

Big Buildings, Stores, Hotels, Parks, Stock Yards—any special view you wish. 5 views, 10c; 13 for 25c, postpaid.

OAK PARK NOVELTY CO.
43A2t OAK PARK, ILL.

"It is continuous advertising that impresses the public with the stability of a firm."

Special Bargains

in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.
JOHN DOLL & SON, Proprietors,
Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

Dittmer's Foundation

is the best foundation for you to use, because it is tough, transparent, will not sag, and has the odor of pure beeswax.

WORKING WAX FOR CASH A SPECIALTY

This is the cheapest way for you to secure your foundation.

BEESWAX ALWAYS WANTED

Our warehouse is well filled with all kinds of **Bee-Keepers' Supplies.**
5 percent Discount during November.

GUS DITTMER, Augusta, Wisconsin

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST ❖ POLITICAL ❖ QUESTION

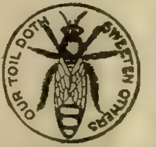
OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks


OUR TOIL DOTH SWEETEN OTHERS

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Wisconsin Basswood Sections
And Prompt Shipments
Is what we are making for our customers.
— DOVETAILED HIVES AND SHIPPING-CASES —
We carry a full line of **SUPPLIES.** Ask for Catalog.
THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. .·. .·. .·. **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

EARLY ORDER DISCOUNT During October I will offer a discount of 6 percent on Supplies for next season's use. In November the discount will be 5 percent. Cash must accompany order.

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

Mention Bee Journal when writing.

Bargains

Best Wisconsin Sections, per 1000—$4 00; No.2—$3 40; plain, 25c less. 7 percent discount in October on Root's and Danz. Hives, and other Root's Goods.

40A26t **H. S. DUBY, ST. ANNE, ILL.**

Mention Bee Journal when writing.

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**

M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

Mention Bee Journal when writing.

Fire Sale of Bee and Poultry Supplies

Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

New Lewis Goods at 6 percent Discount DURING OCTOBER, EXCEPT ON HONEY PACKAGES.

Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Golden Italian or Red Clover Queens **by return mail.** Untested, 75c; Select Untested Queens, $1; Tested, $1.25; Select Tested, $2 25. Full Colonies in up-to-date hives, and Nuclei, for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)
Long Distance Telephone, North 1559. **191 AND 193 SUPERIOR ST. CHICAGO, ILL.**
(Three blocks north and one block east of our old location.)

Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8 00	$ .95	$ 5 00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8 00	1.10	5.50	9.50	1.20	6.00	10.00
Tested	1.50	8 00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested	2.00	10 00	18.00	1.50	8.00	15.00	2.10	10.50	18 50	2.20	11.00	19.00

Straight 5-band Golden Breeders	$10.00
Select Golden Breeders	3.00
" 3-band "	3.00
" Carniolan "	3.10
" Caucasian "	3.25

1-frame Nucleus (no queen)	$1.50
2-frame " "	2 00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive	6 00

Bees by the pound in light shipping-boxes, $1.00 per pound.
Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

Long, Good Advertising

27 years ago bee-keepers were surprised by the first Patent Bee-Smoker.

Bingham's Patented Smoker Improvements

Are dated 1878, 1882, 1892 and 1903. 6 percent Discount for October orders.

Any number, any size, copper or tin, delivered any time.

T. F. BINGHAM
Farwell, Mich.

Mention Bee Journal when writing.

Big Profits in Capons

CAPON
TOOLS

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor	25c
Poultry Marker	25c
French Killing Knife	50c

Capon Book Free.

G. P. Pilling & Son, **Philadelphia, Pa.**

Mention Bee Journal when writing.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

☞ J.G. Goodner, of this State, writes me that "he prefers to pay $25.00 for a Rietsche Press rather than do without it."—A. G.

Mention Bee Journal when writing.

COILED SPRING FENCE

Closely Woven. Can not Sag. **Every wire** and **every twist** is **a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

30 DAYS FREE TRIAL

and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made--how it is galvanized--why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 85 MUNCIE, INDIANA.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

—FOR HIS—

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

ONE WEEK MORE

These two important offers are limited to Nov. 1st.

6 PERCENT DISCOUNT

For orders accompanied with cash before Nov. 1st. This is large interest on your money. Better make out your order and send it to-day. Discounts grow less each month.

5 percent for cash with order before Dec. 1st
4 " " " " Jan. 1st
3 " " " " Feb. 1st
2 " " " " Mar. 1st
1 " " " " Apr. 1st

The discount will not apply to tin and glass honey-packages, scales, glass, paint, bushel-boxes, hot-bed sash, labels, printing, comb-foundation machines, books, and other special or miscellaneous goods except where a few such items not exceeding 10 percent of the entire order, are included in a general order. The discount is intended to apply to hives, frames, sections, comb foundation, section-holders, separators, extractors, smokers, shipping-cases, zinc, and miscellaneous implements used in bee-keeping ordered early for use the following season, and only when cash accompanies the order, or is paid before the dates named.

THIRD PHOTO CONTEST

Our contest is open to all readers of the American Bee Journal. Look over your photos and see if you haven't one or more suitable to enter. If you have a good photo, you stand an excellent chance of winning a prize.

PRIZES

Class A—Photos of general interest, excluding swarms and apiaries. Prizes: First, $5; second, $3; third, $2; fourth, ABC, cloth.

Class B— Photo of swarms. Prizes: First, $3; second, $2; third, A B C of Bee-Culture; fourth, GLEANINGS one year.

Class C—Photo of apiary. Prizes: First, $3; second, $2; third, A B C of Bee-Culture.

Special—Photos that do not win prizes but which we can use will be awarded a prize of $1 each.

CONDITIONS

Contest closes Nov. 1st. All photographs should be marked "For Contest," and have name and address attached. Prize-winning photos become our property. No photo returned unless stamps are sent. We prefer unmounted prints toned to a light-reddish color on solio paper.

CHAFF-HIVES

For winter or summer, there is no better hive for your bees than our dovetailed chaff. It protects against extreme heat and against extreme cold. You can always successfully winter a colony out-of-doors in one. For comb-honey production, it is **par excellence**, as its warmth permits unchecked comb building. Ask for our catalog giving complete description and prices.

SHIPPING-CASES

Don't pack your fancy honey in poor shipping-cases. Put it in our Non-Drip cases and see how much better prices you get. Cases made of selected basswood in all sizes. See Catalog.

AIKIN HONEY-BAGS

Granulated honey is proving a great attraction in the market. It's easy to put up if packed in our Aikin Honey-Bag. It sells easy. It puts your honey in reach of every one, as the cost includes no expensive glass packages, and the breakage sure to occur with their use.

HONEY-JARS

We carry a great variety of styles and sizes. Carefully packed so breakage is reduced to a minimum. Your grocer likes to handle a handsome package, as it sells faster. Try our Simplex Jar. Stocks at all branches and most agencies. Remember, we print honey-labels —50 varieties to select from. Write us.

Address Nearest Agent Below:

Alabama
*Wetumpka........J. M. Jenkins
Canada
Toronto........E. Grainger & Co.
California
*Fresno........Madary Planing Mill
*Los Angeles........California National Honey Producers' Association
Colorado
Denver........The L. A. Watkins Mdse. Co.
Fruita........Fruita Fruit and Produce Ass'n
District of Columbia
Washington........The A. I. Root Co.
Georgia
Savannah........Howkins & Rush
124 Liberty St.
Illinois
Chicago........The A. I. Root Co.
144 East Erie Street.
Indiana
Indianapolis........Walter S. Pouder
Evansville........Vickery Bros.
Iowa
Des Moines........Joseph Nysewander
Kansas
Augusta........Carl F. Buck

Mississippi
Brazelia........George A. Hummer
Massachusetts
Boston........H. H. Jepson. 182 Friend Street
Lyonsville........W. W. Cary & Son
Maine
Mechanic Falls........The A. I. Root Co.
Maryland
Baltimore........Rawlins Implement Co.
Michigan
Bell Branch........M. H. Hunt & Son
Fremont........George E Hilton
Minnesota
St. Paul........The A. I. Root Co.
1024 Mississippi Street.
Missouri
High Hill........Jno Nebel & Son Supply Co.
Springfield........Springfield Seed Co.
St. Louis........Blanke & Hauk
New Mexico
Carlsbad........Edward Scoggin
New York
Syracuse........The A. I. Root Co.
New York City........The A. I. Root Co.
44 Vesey Street.

Ohio
Columbus Grove........McAdams Seed Co.
Toledo........Griggs Bros., 521 Monroe St.
Zanesville........E. W. Pierce
Cincinnati........C. H. W. Weber
2146 Central Avenue
Oregon
Portland........Portland Seed Co.
Pennsylvania
Du Bois........Prothero & Arnold
Philadelphia........The A. I. Root Co.
10 Vine Street
Williamsport........E. E. Pressler
633 Lycoming Street
Texas
Dallas........Texas Seed and Floral Co.
San Antonio........Udo Toepperwein
Uvalde........D. M. Edwards
Utah
Ogden........The Superior Honey Co.
Virginia
Spottswood........W. E. Tribbett

* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

L. L. LANGSTROTH
CHAS. DADANT

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor
CHICAGO, ILL., OCTOBER 25, 1906
Vol. XLVI—No. 43

Editorial Notes and Comments

Honey-Prices Stiffening Up

Naturally, after a season of short honey crop prices of honey would be expected to rise somewhat. Such is the case this fall. We understand that it is not at all difficult to sell honey of first-class flavor this year, especially if it is comb honey.

We have heard of some fine comb honey being sold at very low prices: This, it seems to us, can only be accounted for through ignorance on the part of the producer. Any one who reads the bee-papers can easily see the upward tendency of prices as a result of a limited honey crop.

Doubtless long before another year's honey crop will be ready for delivery, the market will be entirely bare of honey. So those who are *sure* they can keep their finest comb honey so it will not granulate, will likely secure a higher price later on. But ordinarily it is financially more satisfactory to the producer to sell honey before Jan. 1.

We hesitate to advise bee-keepers as to the best time to sell their honey. Our predecessor advised selling honey early one year, and a certain Vermont bee-keeper followed the advice. He told us some years afterward that thereby he lost $500, as later on honey advanced in price. He foolishly blamed the American Bee Journal for his loss, and since then has not been one of its subscribers.

So we do not advise producers when to sell honey—except it be whenever they can get a price satisfactory to them.

◆

Inform Yourself in Advance About Bees

A subscriber writes about a certain trouble with his bees concerning which he has read nothing in the bee books or papers, and is quite anxious lest it be some very serious disease. It happens to be nothing worse than the trouble that comes from bees working on milkweed, which has been described in the bee-books and mentioned repeatedly in the papers. The probability is that he has seen it mentioned more than once, but not being specially interested, he has let it go with a passing glance. If he had given it reasonable attention it would have saved him needless worry.

The same thing is no doubt true with many a bee-keeper. He uses his book or his bee-paper too much like a dictionary—merely giving attention to those things that happen directly to meet his case. The wise bee-keeper informs himself in general on all topics pertaining to bees, and when the occasion arises he is ready for it. Especially is this true with regard to foul brood. The average bee-keeper has no interest in the subject, because his bees are not suffering from the disease. But when something arises that he suspects may be foul brood, he is in a panic. If he had taken pains to read up he might have been saved anxiety by knowing that no disease was present. Or if present, he would have known fairly well just what to do. If you are wise, you will inform yourself in general on all topics pertaining to bees and bee-keeping. No telling when the information may come in handy.

◆

"Better Than Honey for Less Money"

In an issue of Printer's Ink—a splendid advertisers' publication—appeared these words some time ago:

"One of the most disastrous campaigns in the history of advertising, it is said, was that of Corn Products, with Karo Corn Syrup."

At least every bee-keeper will be glad to know that Karo Corn Syrup was a failure, as it deserved to be. That was the food fraud that was being worked off on the consuming public as "The rival of the bee," "The great spread for daily bread," and "Better than honey for less money"—all of which statements were absolute falsehoods, whether they were perpetrated knowingly or not.

In the American Bee Journal for Jan. 7, 1904, we first paid our respects to "Karo," in this editorial:

"THE RIVAL OF THE BEE."

This, in large type, is the heading of a full-page 3-column advertisement we saw in one of our exchanges recently. To make it more deceptive, at each end of the head-line is the picture of a straw-skep. The first column of the wonderful, rivalling stuff started off like this:

> "*Words sweet as honey from his lips distill'd.*"
> —ILIAD OF HOMER.
>
> Long has the honey of the bee reigned as sweet of sweets. Homer, Milton, Shakespeare, Tennyson and others of the poets made tribute to its sovereignty, using its name as the superlative of sweetness.
>
> When these men wrote, and, until a recent day, the industrious bee toiled on without a rival.
>
> But 20th century skill and science came upon the field to wrest from the bee his laurels. Man went to Nature, even as the bee does, but with better equipment. Only the blossoms, with their mites of sweet, are open to the bee for his sources of supply. Man may go where the store is richer though more strongly guarded.
>
> So he drew upon the King of Nature's cereals, corn, and made therefrom a syrup clear and golden as the honey of the bee; richer in nutriment, sweeter in flavor, less in cost.
>
> And when this syrup is placed where the bee may have access to it, he forsakes the roses and the clover, mutely acknowledging his vanquishment, and making the triumph of man complete.
>
> This wonderful syrup, extracted from the golden grains, Karo Corn Syrup, is meeting with a warm welcome from the housewives of America, won by its purity, flavor, nutriment, and low cost.
>
> It is being used in place of honey and other syrups on griddle cakes and as a spread—because it is "better than honey for less money." It is being used instead of molasses in baking and candy making, because it is purer, more nutritious, and more digestible.

How eloquently beautiful that is! Then think how goes "the bee for *his* sources of supply"—the blossoms. But when *he* (the bee) finds *his* great "rival," "*he* forsakes the *roses*," etc.

It is safe to say that the chap who wrote the nonsense quoted doesn't know any more about the genuine honey produced by honey-bees than he does concerning the flowers from which it is gathered; and, also, he seems not to know that the *he* bees do not gather nectar at all.

But just for our own satisfaction we asked Mrs. York to buy a 10-cent can of this great "rival of the [he] bee," so that we might personally know about what is "better than honey for less money." We pride ourselves on having a fair taster for sweet things. But the stuff we got (a mixture of corn-syrup and cane-syrup) "better than honey for less money," proved clearly to us that the one who wrote those rhythmical words must have had in mind a poor grade of honey-dew, or amber honey spoiled by overheating. It tasted more like New Orleans molasses. He certainly never tasted the fine white clover, alfalfa, basswood, sage, or other fine bee-honeys with which to compare his glucose product.

To be sure, we got about a pint of the stuff for 10 cents. Yes, it's cheap. Everybody knows that glucose is cheap.

We doubt not some good people will believe the catchy advertisement, and buy a sample of "he-bee molasses," thinking they are really getting something better than genuine honey-bee honey. After sampling it, we think they would agree with us, that if the fixed-up glucose is "better than honey," we surely wouldn't want either the corn-syrup or genuine honey.

But we doubt if many people can be fooled into investing very heavily in this "he-bee molasses."

Well, it seems our prediction came true, that not "many people can be fooled into investing heavily in this 'he-bee molaases.'"

If we remember rightly, on the label of every can of Karo Corn Syrup was indicated the contents as 15 percent cane-syrup and *85 percent glucose.* And that was to be considered "better than honey!" Well, the good people of this country knew better just as soon as they got a taste of the villainous stuff. One taste—less than a half teaspoonful—was enough for us.

It doesn't pay to misrepresent in advertising any more than in anything else. Neither does it pay to force an untrue comparison, especially when it comes to honey, for what could be "better than honey for less money?" Surely, not a mixture of almost nine tenths glucose. And the great public—the people who eat—soon discovered the misrepresentation, and simply would not be imposed upon. It was a deliberate attempt to displace honey as a table article, but the scheme didn't work. The fact is, there is no substitute for honey; and if bee-keepers could spend as much money to advertise honey as was spent on trying to popularize the miserably tasting "Karo-Korn Konkoktion," we believe it would create such a demand for honey as would take every pound, every year, and at a greatly increased price over present market quotations.

Miscellaneous News-Items

The San Antonio Convention of the National Bee-Keepers' Association, as most of our readers know, is to be held Nov. 8, 9, and 10. The Texas bee-keepers are making large plans for entertaining the visiting bee-keepers. One item is a Mexican banquet, and the following is the menu, taken from The Apiarist, a monthly bee-paper published at Waco, Tex.:

"Tamales, Chile Concarne, Mendo Enchilados, Polo Canaros, Corbreto Langua Lampriodo, Frejoles Tritos, Con Tartillas."

We believe the Northern bee-keepers were not to be informed of the special menu, but instead they were to be taken by surprise. After reading the above suspicious list of dainties, we think there will be enough surprise to last until the close of the convention, even if some of it begins thus early. It certainly will be a kindness to all who expect to go from the North to be forewarned, for if the proposed menu is as deadly as is indicated by the unpronounceable names of the various dishes, it might lead one to be suspicious; and then, indeed, we should all go prepared for the worst. We can not imagine what Northern bee-keepers have done to merit such a "treat" as proposed by the Texas brethren. It may be, however, that no one will be compelled to consume everything on the menu. At any rate, if our Texas friends can flourish on such bomb-like things all the year around, those of us who will be there for only a few days ought to be able to stand it fairly well, or at least escape with our lives and whatever aches may result from indulging in a Mexican menu.

At this time, the special car of bee-keepers to start from Chicago at 10:37 a.m., Nov. 6, seems to be well assured. We hope, however, that there will be others who will want to join the company, and will also let us know as soon as possible. We now have a diagram of the tourist sleeping-car in our office, and are making reservations for berths. The car will hold about 50 persons in all, and we hope that all the berths will be taken. The route is over the Frisco System, which is one of the best from Chicago to Texas. It will be a 2 days' trip, and should be thoroughly enjoyed by all who will be fortunate enough to join the special-car company of bee-keepers.

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The Bee-Inspectors' Meeting to be held in San Antonio, Tex., Nov. 12, promises to be a good one. The following provisional program has been arranged:

Demonstration of Bacteria of Bee-Diseases—Dr. G. F White, United States Department of Agriculture, Washington, D. C.

History of Bee-Disease Inspection in Wisconsin—N. E. France, Inspector of Apiaries for Wisconsin.

General discussion of existing bee-disease laws. An examination of laws now in force, and suggestions for most effective legislation.

The Introduction of European Foul Brood into Michigan—W. Z. Hutchinson, Inspector of Apiaries for Michigan.

The Inspection of European Foul Brood in New York—Charles Stewart, Inspector of 3d District of New York.

Foul Brood on the Pacific Coast—F. A. Parker, former Inspector of Santa Barbara County.

The Present Status of the Investigation of Bee-Diseases — Dr. E. F. Phillips, United States Department of Agriculture.

Reports of Inspectors from the various States and Counties on the progress of inspection.

This program is subject to such changes as may be necessary, but it will indicate the character of the meeting. All persons interested in bee-disease inspection are urged to attend. A number of persons prominent in this work have agreed to be present.

E. F. PHILLIPS,
Acting in Charge of Apiculture.
Washington, D. C.

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"The Brood Diseases of Bees," being Circular No. 79 of the Bureau of Entomology, Washington, D. C., is on our desk. Dr. E. F. Phillips, Apicultural Expert, is its author. It treats of American and European foul brood principally, giving methods of successful treatment for both summer and fall. A copy of it may be had free by addressing the author. It is a very condensed statement of the subject, and will be found of exceeding interest to bee-keepers.

◆

National Bee-Keepers' Association will hold its 37th annual convention in San Antonio, Tex., Nov. 8, 9, and 10 Will you be there?

Biographs of Beedomites

J. E. Johnson.—The engraving of Mr. Johnson, on the first page, was from a photograph taken about 18 years ago. It was made in a hurry for the last Illinois State Report, which was published in pamphlet form. There is no photograph gallery where Mr. Johnson lives, and there was not time enough to go away and have a new photograph taken. Mr. Johnson thinks the photograph flatters him very much, but as we have had the pleasure of meeting him within the past year, we can testify to the fact that while quite a few years have passed since the original photograph was taken, yet the subject has been very well preserved—probably in some honey—which would account for his keeping so young and fresh looking. (Please do not think that Mr. Johnson is at all "fresh" in the slang use of that word, for he is not.)

Mr. Johnson found his first swarm of bees in a hollow tree. His father and the hired man cut the tree, hived the bees in a box,

(Continued on page 902.)

Contributed Articles

The Cheshire Theory of Foul Brood

BY J. A. GREEN

For a number of years bee-keepers have accepted the theory of Cheshire as to the cause of foul brood, and have assumed that there was only one form of foul brood, alike in all countries where bees were kept. There were some inconsistencies. Cheshire's theory, or, perhaps, I should rather say the conclusions he drew therefrom, did not always fit the facts. Several, I believe, have called attention to this. I, myself, in an article published about 15 years ago, expressed my doubts that the true cause of foul brood had been discovered. But in the main there was no opposition to the acceptance of the Cheshire theory. The disease was evidently of bacterial origin, and *Bacillus alvei* was as convenient a one to lay it to as any other bacterium. Very few had the facilities to make microscopical investigations on their own account, so, for lack of anything better, Cheshire's theory as to the cause of the disease had full credence, though practical men, in this country at least, had been compelled to discard his conclusions in regard to the transmission of the disease, its character and its cure.

Let us review briefly some of these. First, that foul brood is not simply a disease of the brood, but a chronic disease of the blood, affecting queens, workers and drones. He found *Bacillus alvei* in the ovaries of the queen as well as in eggs not yet laid. If a queen were infected to this extent, it would hardly seem that she could ever again lay healthy eggs. Yet the queen may be removed from an infected colony, placed in a healthy colony, and the brood that hatches from the eggs she lays therein will be healthy. I have done this a number of times myself, as have many other bee-keepers—probably hundreds of times in all—and if any one has ever brought forward any proof that the disease was ever transmitted thereby, it has escaped my notice. Moreover, by the McEvoy method of cure, which has been successful in thousands of cases, the queen of the diseased colony is, only 3 or 4 days later, laying eggs in a colony that is thereafter healthy, all trace of the "chronic blood disease" having vanished in the meantime.

If the mature workers of an infected colony are diseased, it is certainly very remarkable that all of the many thousands comprising a colony are cured, or, at least, made incapable of transmitting the disease by the simple process of building a few square inches of comb.

It is well known that drones are "free commoners," going freely from one hive to another. If it were true that they were diseased in themselves, would not this frequent interchange of visits result in spreading the disease to a far greater extent than is known to be the case? No proof has ever been brought forward that the disease has ever been transmitted from drone to queen by the act of mating, as claimed by Cheshire, and all experience is distinctly against the supposition that such is ever the case.

Perhaps the strongest proof that the workers are not diseased, or are incapable in themselves of transmitting the disease, is furnished by the Baldridge method of cure, which was described on page 469 of the American Bee Journal for 1905. The principle involved in this plan, which is one of the most practical and valuable methods of cure, is that foul brood is conveyed only by means of the honey, and that an undisturbed bee leaving its hive does not carry any honey with it, and may therefore enter any hive without any danger of transmitting the disease. The bees leave the infected hive through a bee-escape, and, being unable to return, go into a hive alongside. Bees are thus leaving a diseased colony and entering a healthy colony to become members thereof, daily, for a period of several weeks. Is it conceivable that they could do this without infecting the colony they enter, if they were themselves diseased? Yet I can testify, as can many others, that this is a practical method of cure. I have tried it in a number of cases without a single failure.

The same principle is involved in the plan of R. C. Aikin, whereby the diseased colony is moved several times, at each move losing its flying bees, which enter the hives nearest its old stand. Care being taken not to disturb the bees at the time of moving them, which is best done in the evening, the returning bees will enter healthy colonies without conveying the disease. These facts show that the contagion is not conveyed by the bees, queen or drones.

When curing bees by the McEvoy plan, shaking them from their old combs and compelling them to build a new set, the old hive may be used, disinfection being entirely unnecessary. I have Mr. McEvoy as authority for this, and numerous trials in my own practise have shown that he is correct.

Finally, it is claimed by some that there is no danger of the operator carrying the disease from one hive to another, if he is careful not to carry any honey on his hands or tools. At any rate, his disinfectants are not necessary. I personally know of large apiaries where many cases of foul brood have been successfully handled, the only precaution against conveying the disease being to wash the hands and tools with soap and water after handling a diseased colony.

If you will consider the foregoing facts, which may be supported by any necessary amount of evidence, you will see that the only remaining sources of contagion are the diseased brood itself, or the honey infected therefrom. Although Cheshire concluded, because he could not find *Bacillus alvei* in honey, that the disease could not be conveyed thereby, and even went so far as to declare that bacilli could not multiply in honey, all practical experience with the disease as we know it in this country, shows that ordinarily honey is the sole medium of contagion. All successful methods of cure are based on this theory, and the various methods of cure by medication, which have been imported from Europe from time to time, have proven utterly useless, or, at the best, only palliatives of the disease they can not cure.

We have come to the point where a re-organization and re-adjustment of our ideas in regard to foul brood seem inevitable. There has been for a long time a curious difference between the experiences of bee-keepers in this country and those of Europe. This led to the belief in the minds of many here that foul brood in Europe was of a milder form than what we had here. Some explained this by saying that bees there had been subject to foul brood for so much longer a time that they had become more immune to it. Just how time can operate to render anything immune to a disease that once well-established is invariably fatal unless cured by man, does not appear to me. No evidence has ever been presented to show that a colony that has been cured of foul brood is any less likely to contract it again.

Then came the investigations of the bacteriologists of our Department of Agriculture, in which they were unable to find *Bacillus alvei* in any sample of foul brood as we know it in this country, while every sample of what we know as black brood contained *Bacillus alvei*. This would indicate strongly that what has been known as foul brood in Europe is identical with what we know as black brood here. At least it would go to show that it was black brood, and not foul brood, that Cheshire experimented with.

Evidence going to show that black brood exists in Europe is given by the fact that the treatment found by Alexander, of New York, effective in curing black brood has been recommended by Simmins, of England, for curing foul brood, but which I think no one who has ever had experience with the genuine foul brood of this country would consider in the least likely to be effective against that disease.

Of course, even if it be true that much of the European experience has been with something other than what we know as foul brood, it does not necessarily follow that the genuine article does not exist there. It is quite probable that there are two brood diseases there, the same as here. It is difficult to get around the evidence brought forward by C. P. Dadant, on page 719, that the real foul brood exists there. It may be that they have simply never been differentiated, and that Cheshire's error has prevented an earlier recognition of the facts.

Grand Junction, Colo.

Swarming—Queen-Cells and Superseding Queens

BY EDWIN BEVINS

DR. MILLER :—I have just been reading your "Forty Years Among the Bees," and am impressed with the thought that you must have found some things in the pursuit of bee-keeping in its early stages that you would not sell for cash if you could, or else you would have sold out at a moderate price.

I observe also your complaint that you are not an expert at hiving swarms. It is probable that I do not like swarming much better than you do, but I would rather have some prime swarms than to do the work necessary to prevent swarming altogether. Without pretending to be an expert on hiving swarms, I will try to give you some idea of the way I do things in swarming time. The wings of my queens are not clipped, nor would I have them so long as I have but one apiary and am able to give that my undivided attention. With me the risk of losing valuable queens is very small. It is so seldom that a swarm goes off without first clustering, that when I see a swarm issuing from a hive I do not so much as watch to see where it will cluster, knowing that it will be found somewhere near by.

My yard is surrounded on all sides by low-growing trees—apple, peach, pear, and plum—and has some grapevines in it. Many swarms cluster so low on these trees and vines that all I have to do is to set a prepared hive on the ground, and knock the cluster down in front of it. When bees cluster a little too high for such treatment, I tumble a big box under the branch of the tree and set the hive on the box. Swarms that cluster higher, if on a branch that can easily be cut off, are taken down and carried to the hive. Occasionally I find it necessary to run a wagon under an apple tree and set the hive in that. I have found the Manum swarm-catcher very useful to me at times.

On the west side of my yard, at a distance of 40 or 50 feet, is a rather tall oak-tree. Some swarms issuing from hives nearest this tree will cluster so high that I have to use a Manum catcher to get them down. Tie the legs of the catcher to the pole, and have an able-bodied man to handle the pole. Have a hive standing near on the ground. Have the man with the catcher shove the basket close up under the cluster. Another man hits the limb a smart rap and drops the cluster into the basket. The man handling the pole lowers the basket and lays it in front of the hive, then, dropping the pole, he shakes the bees on the alighting-board. No need to delay operations trying to swing the cover shut. Some bees will go back to the limb. Then repeat. The few bees that will go back to the limb after this will, in a little while, go down to the hive.

In the Appendix to "Forty Years Among the Bees," you give a plan for starting queen-cells which you seem to think is an improvement over the plan given on page 238. I am not sure that the plan would suit me any better, inasmuch as one must wait till some colony is found to be starting queen-cells, and I am not sure that I should always want to wait for this, and, besides, I have no love for the work of hunting up the colonies that are making preparations to swarm. This is done mostly at a time when the bees are busy storing, and I dislike to interrupt them unless there is a strong necessity. But allow me to say here, that the plans given in your book for rearing queens on a small scale are just what I have been looking for for a long time. They seem, at least, to be what most bee-keepers need, to enable them to supply their own apiaries with good queens at little expense.

Is it a fact that yourself, Dadant, Doolittle, and Hutchinson never do any requeening, but leave the matter of superseding queens entirely to the bees? This is the inference that I draw from what is said by Miss Wilson, on page 784. In this matter of requeening there seem to be two extremes. One extreme is to supersede all queens every year; the other is to leave the superseding of queens entirely to the bees. I would avoid both extremes. The first involves the destruction of many valuable queens. The second is almost sure to be attended with the loss of a good deal of honey the following season, because many colonies have failed to requeen, and the old queens have died or become worthless as layers.

"Use judgment in the matter of superseding, but be sure every spring to have a good many colonies in the yard with queens of the previous season's rearing," is my motto at the present time.

Leon, Iowa.

MR. BEVINS :—Thanks for particulars as to your management of swarms. They may be of service to others, if not to me. Unless it may have been the first 1 or 2 swarms I had, I think I never had a swarm issue by deliberate intention on my part. The season of 1906 stands out clearly as the one that has given me less trouble on the swarming question than any other year of my experience. In only one case was anything done toward prevention of swarming; queen-cells were destroyed in one colony—in that colony none was started again—and if any colony swarmed throughout the whole season I never knew it, except one colony. Sept. 18, in the afternoon, I had a telephone message that at the Wilson apiary little Katharine had seen a small swarm hanging on the apple-tree. I hardly thought it was worth while to bother with it, but as I thought I might want the queen, we went over the next morning and found it hanging low, within easy reach. We filled a hive with combs, mostly solid with sealed honey, cut off the little limb and laid the cluster in front of the hive, and the bees did the rest. It was a fair swarm of yellow bees with a virgin queen. So you see the season's work, so far as concerns swarming, amounts to cutting out cells once in one colony, and hiving one swarm. And possibly that swarm came from elsewhere.

Some one may want to congratulate me on having non-swarming bees. It wasn't that; for while I have gained something in that direction, the principal reason that there was no attempt at swarming was because there was such a dearth of pasturage (although clover bloomed bounteously) that the bees had sense enough to know that they couldn't afford to swarm. In my 45 years of bee-keeping in no other year did I meddle so little with the bees as in the season of 1906.

So you think the fussy plan on page 238, of "Forty Years Among the Bees," is better than the one on page 333. Not for me. But it may be for you. Because the work of hunting up colonies making preparations for swarming for which you have no love, is work that I would do anyhow. For you give bees full consent to swarm; I don't, and that makes a difference.

Yes, you are right in understanding that I have the company of Messrs. Doolittle, Hutchinson, and Dadant in leaving the matter of requeening chiefly in the hands of the bees, only Mr. Doolittle has a little different practise in his latest plan with his out-apiaries. You don't approve of leaving superseding to the bees because the plan "is almost sure to be attended with the loss of a good deal of honey the following season, because many colonies have failed to requeen, and the old queens have died or become worthless as layers." I have very little of that sort of experience. I wonder if it may not be that local conditions, or possibly the strain of bees, may make a difference. There ought not to be much chance for queenlessness from superseding, for if I am not mistaken, at least in my locality, the superseding is generally done toward the close of harvest, the old queen continuing to lay until the young one is fertilized, and if the young one is lost on her wedding-flight there is plenty of time to rear another. At any rate, it is a rare thing for me to find in the spring a queen so old that she is not able to bring the colony up to full strength in time for the harvest. Of course it is right to use judgment, and if any qneen seems to fall short, off comes her head at first opportunity to replace her. C. C. MILLER.

Marengo, Ill.

The Ohio Farmer, one of the leading weekly farm papers of this country, we offer in connection with the American Bee Journal, both for one year, for $1.35. A sample copy of the Ohio Farmer may be had by sending the request to Cleveland, Ohio. All orders for subscriptions on this combination rate of $1.35 for the two should be mailed to the office of the American Bee Journal.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Bee-Space at Top Instead of Bottom of Hives and Supers

Yesterday I assisted a friend in removing some of the extracting supers and in examining about 90 hives of bees. And during all the work I was more and more impressed with the disadvantages and undesirable features of a hive with the bee-space at the top of the hive instead of the bottom. On removing and replacing the quilt or cloth it was distressing to experience how impossible it is to place it smooth and flat on the hive; they were wrinkled and rough. Large quantities of propolis were built up from the top-bars to the ever-retreating cloth. I believe this extra and unsatisfactory work injures the bees—they are busy when they should be quiet. It is a difficult job to clean the top off when the frames are below the top of the hive.

Another thing: It is more difficult to remove and replace frames from such hives or supers, owing to the depth of the rabbet and the propolis on the ends of the top bars.

Again: Invariably when a hive or super was placed upon a board or floor, some projections built on the underside of the frames would punch the frames up and give trouble.

Once more: A hive with the bee-space at the bottom gives a ⅝ space under the frames; which may or may not be of any particular advantage, but I rather like it. To help the bees reach the combs, I nail a few triangular-shaped strips on the floor from front to rear, about 4 inches from the entrance, and about the same distance from the rear end of the floor.

Owing to the propolis over the sections, and on the sides and ends of the super, and the greater distance through which the sections have to be moved when the bee-space is at the top, a super with a bee-space at the bottom can be emptied much more easily and quickly than those with bee-space at the top.

Another point: With the tops of the frames even with the top of the hive, the super prevents them from swinging when being moved.

All the above points are elements of great importance to the calling. I have tested both ways and know the difference.

In removing supers—especially comb honey supers—after a good flow, when the bees have been over-crowded, some wax may be found between the top-bars and the supers; but when the tops of the hives and top-bars are even, it is an easy and quick job to remove them with a suitable hoe. Then it is a joy to spread the cloth or quilt flat, smooth and even over all the top. Then what comes next holds the cloth or quilt closely against all parts of the tops of the frames, and the bees are soon satisfied, and rest.

S. T. Pettit.

Aylmer, Ont., Sept. 2.

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Drone-Comb in Extracting Supers

That drone-combs in supers are not altogether an unmixed evil has been brought forcibly to the notice of the writer this present season. While hundreds of beautiful combs of worker size have been plugged with clover pollen, it is quite pleasant to come across drone-combs, which are, of course, invariably free from pollen. No brood was hoisted in my supers this year, yet the pollen nuisance is the worst I ever experienced, and it is quite a problem how to treat the large number of wired combs, which are comparatively useless in their present condition. Only two practical plans are suggested to me, viz.: scraping them to the septum and cutting out entire chunks filled with pollen. Quite likely the latter course will be followed, as it is *less work* and more wax is obtained, to say nothing of the fact (objectionable or otherwise) that the comb will be repaired with drone-size cells, and *not be filled with pollen again.*—J. L. Byer, in Canadian Bee Journal.

This is a strong point in favor of some drone-comb in extracting supers. But localities vary so it will not appeal to all, because in many localities there is no pollen to spare. I have experimented a great deal with getting rid of pollen, and concluded that the simplest plan is to cut it all out, and let the bees take a fresh start, either on a new sheet of foundation or in filling in the hole with drone-comb.

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Raspberry Honey in York County

J. L. Byer reports, in the Canadian Bee Journal, extracting 1700 pounds of raspberry honey from one of his yards, and says that although *amber* in color the flavor is beautiful.

This reminds me of a little joke we had at the Michigan State Convention last winter, when Mr. E. D. Townsend was showing a sample of extracted honey to some of the members. All who did not know—and some of them acknowledged experts—pronounced it good *white* clover honey, until Mr. Townsend informed us it was raspberry honey.

Of course, the season has much to do with the color of honey. Personally, I did not extract one pound of white honey this year. At two of my yards, where I expected some, it turned out to be all dark amber.

Southern Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Do Bees Tear Down Queen-Cells Containing Live Queens?

Mr. Anderson further gets after some of the veterans in this fashion:

> "I am glad to see Allen Latham fire into Mr. Alley about bees not cutting out queen-cells containing live queens. I wonder that Mr. Alley hasn't known this after all those 40 years of queen-rearing. Some of those old 'land marks' make some wild shots, as well as we youngsters, and should be promptly corrected."

I am sorry that I was not able, on account of my severe illness lasting several months, to keep up with the discussions, neither have I the Journals containing them here at the hospital, where I am still confined, but without knowing what conclusion was arrived at by these two experienced men, my opinion has always been that the bees did not tear down the queen-cells containing *live* queens. Is it not true that the bees caring for the queen-cells even try to protect these from destruction by another queen already in the hive, or from a virgin hatched ahead of her sisters? Then if such a vigorous protection of the bees exists, would the bees destroy these cells, with live queens, without the reigning queen first inflicting her fatal sting upon the inmate?

I have seen torn-open queen-cells with queens that were still alive, but upon close examination it would be found that they were in a maimed condition, caused by the sting of the queen that tore the cell open. Such cells would then be torn down by the bees, and even such cells I have seen kept well protected and cared for by the surrounding bees until the queen was actually dead.

Then I have seen, in a few instances, queen-cells torn open in which queens were well and alive, perhaps saved from being stung by the outside marauder, by the bees protecting such cells. When a comb containing such an open cell was lifted out the bees kept close to it, trying to protect its inmate. Upon several occasions, when making nuclei, I have seen the queen emerge just as if the cell had not been torn open; and, in one instance, the inmate of the cell turned and twisted in her enclosure until she succeeded in emerging through the torn opening in the cell's side. These queens lived.

Experience With Caucasians

Aside from a queen-rearing yard, we have an apiary of 92 colonies of this strain of bees. We never got foundation stock for the spring honey-flow, so we had to establish the yard with the summer and fall flow, but we never established an apiary with such results in the same length of time and with the same supplies. We have put them up for winter in good condition, and took off several pounds of surplus honey; in every respect the best section honey we have ever been able to get bees to store. They have proved to be the best super workers, and we believe them to be equal to any strain of bees for storing honey in empty extracting combs.

We have found but one objection to these bees so far, and that is that they gather more propolis than any other strain of bees. Since the honey-flow stopped they have put the sweet-gum chewers out of business, cleaning the gum-trees for miles around. However, they do not scatter propolis in the interior of the hives as other bees do, but deposit it in great wads just on the inside at the entrance, almost closing it up, and use it sparingly in other parts of the hive.

The tags can easily be cut loose from the bottom with a knife at the entrance, and will not interfere with handling frames.

It may be that these bees are great swarmers, as they are so prolific, but we hardly think so, as they enter supers readily.

The Caucasian bees are the gentlest bees we have ever handled, and behave themselves well on the comb, in the hive, and around the apiary. Their cross with the Italians is spiteful, but with the blacks their temper remains about the same. They are great pollen-gatherers, stir soon and late, are good home-defenders, great cell-builders, and not much given to robbing.

It is sometimes difficult to distinguish them from blacks, especially as they fly in and out at the entrance, or a few of them in a place; but when two covered combs are compared the difference can easily be seen. Besides, they can easily be distinguished by their good behavior. J. J. **Wilder.**

Crisp Co., Ga., Oct. 16.

Convention Proceedings

Western Illinois Convention

The Western Illinois Bee-Keepers' Association met in the County Courtroom at Galesburg, Sept. 20, 1906, with Pres. J. E. Johnson in the chair. There was a fair attendance.

The minutes of the last meeting were read and approved, and letters were read from J. Q. Smith and George W. York, giving reasons for their absence and expressing their regrets. Mr. York sent a paper on "Honey—Its Dietetic and Hygienic Values," which was read, and afterward published in full in one of the Galesburg daily newspapers.

This has been one of the poorest seasons ever known in this part of the State, and every one present reported no surplus honey this season, but some expressed themselves as believing that 1907 would be a better year for honey.

KEEPING EMPTY BROOD-COMBS IN SUMMER.

Among the several questions discussed was, "How can we best preserve empty brood-combs through the summer?" The past has been an exceedingly dry summer, and some bee-keepers who fumigated their combs thoroughly with sulphur, found that the dry weather made cracks in cover or hive so that moths got in, and, being so hot and dry the worms hatched out rapidly and destroyed many combs. Mr. Jacob Moore found that moths were never as bad if hives were placed in the honey-house as they were if left on the summer stands. The general verdict was that if combs were thoroughly fumigated with sulphur, or bisulphide of carbon, and then stored in hive-bodies in the honey-house or in some closed house, and hives closed tight, the combs would be safe all summer.

After some more discussion the convention retired to the beautiful Court House lawn, where our wives and daughters spread a bountiful dinner on the grass. Of course, we did full justice to the good things, which included fried chicken and home-grown peaches. When we could eat no more of such things, we were regaled with an abundance of delicious ice-cream—the donation of Vice-Pres. Alvah A. Reynolds.

The ladies had been so generous that there were 2 large baskets full of good things left, which were gathered up and donated to the free kindergarten.

It was decided that hereafter we hold our meetings annually, in September, and with a lunch-basket picnic.

E. D. Woods, *Sec.*

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

An Afterswarm of Thought on Women and Bee-Keeping

The prime swarm issued from the mind of Mrs. Anna Botsford Comstock (in Gleanings), to whom is due a vote of thanks from the bee-keeping sisterhood, for her cheery manner of presenting the subject of "Women and Bees—Why they Should, and Should Not Keep Them." In fact, all women-kind owe her a hearty "Thank you," for the one sentence which reads: "The hard work is really no objection, as most women of whatever class are at it any way." Could she have framed a broader and more sweeping compliment to her sex?

One can easily read between the lines that she is most happily situated in the possession of an appreciative husband—one capable of reciprocation. Mostly, a man is proud of his wife's judgment in *one thing*, at least—the selection of a husband; but it is not always the case that a wife can afford to be conceited over her success in this matter. However, there is nothing to deter those less happily situated from helping themselves, and *all the more cause* that they *should*.

Mrs. Comstock's ready manner of handling every-day happenings pronounces her practical, and at once inspires confidence. She says, "Any woman who keeps house needs an avocation which shall take her mind and attention completely off her household cares at times. There is something about the daily routine of house-keeping that wears the mind and body full of ruts, even in the case of those *who love to do housework better than anything else*." Is evidence to substantiate this assertion needed? Apply to the health sanitoriums and lunatic asylums.

"Talk about the servant question! It is

not the servant question, it is the housework question. If some means could be devised by which housework could be performed with inspiration, zeal and enthusiasm, the servant problem would solve itself; but this ideal way of doing housework can be carried on only when the spirit is freed from the sense of eternal drudgery." Which latter can be said of all work. Most communities can furnish a few striking specimens of unfortunates, who are mainly so on account of a fear of work clutching at their throats, but here in the South, where for so many generations the blacks were depended upon for all labor, a great percentage of the common people seem to be imbued with an inborn mortal terror of anything which might be construed into drudgery, or the shadow thereof. Were there anything real connected with this bug-a-boo, then there would be room for the exercise of patience; but when it is almost totally imaginary, and sadly interferes with good fellowship—real, old-fashioned sociability—and runs along lines which materially affect the bread-and-butter question, then the thrifty want to call a halt.

Industrious men or women fail to see that loafers of either sex lend charm or beauty to their environments, be these what they may. In these days when to shirk, to lean, and to beat, are accomplishments of which many seem to boast, it is truly refreshing for one to speak right out, as Mrs. Comstock has done, and let us know there yet exists earnest and honest souls.

Her statement that "bee-keeping is one of the best life-saving, nerve-healing avocations," will be sustained by many a bee-keeper who has had, for remedial agents, nothing else.

The little cares that fretted me—
I lost them yesterday
Among the fields, above the sea,
Among the winds at play;
Among the lowing of the herds,
The rustling of the trees,
Among the singing of the birds,
The humming of the bees.

Because we can not work with bees and think of anything else, she claims that a change from any nerve-racking employment to bee-keeping will prove as effective a rest as a trip to Europe. Alas, how few women realize what a change of employment would mean to them! Worn and fagged out by the same wearisome round of toil, they seek rejuvenation by the vacation route. Vacation? Oh, yes, something intended to be revivifying, but falls so far short of its object that it is a thousand wonders that all vacations have not gone out of style long ago. Vacations are all right, but when perverted by false choice of place and manner of taking the same, they often prove worse than useless.

Where do most women of the class who secure vacations prefer to spend them? At an isolated seashore or lake village, or on the farm, wandering at sweet will o'er wooded hill and dale, where all of Nature's great remedial restoratives may be enjoyed to an unlimited degree? Ah, no, they seek the fashionable watering-places where the hotels are tall, and the bills taller—$27 a minute to be in the same circle as the Van-in-its! Where an entire change of attire must be undergone at least half-dozen times a day just to hear the silly men decide which is the more, or most, becoming! Where the gowns are cut low in front and back, the orchestra plays at dinner, and the open-faced shirt parades after 6 p.m.! Where you have difficulty in securing hanging room in the street-cars, and the trains, autos, steamers, and every public conveyance, are crowded like sardines in a can! Where it is rush, boom, and hurrah at least 20 out of the 24 hours; five-sixths of the time spent in revel or festivities, and the other little one-sixth in which to gather up the over-strained forces for a renewal of the fray each succeeding day!

Small wonder so many return to their positions in a more depleted condition than when starting out on the long-anticipated vacation! A few there are who seek the rugged mountain and the giant timber which soothe by their grandeur, and the soft, long grass and purling stream which offer at once couch and lullaby. All are not able to go to the mountain; such might bring the mountain to them, by keeping a few bees which would pay bills, and offer to an intelligent and inquisitive mind a rich yield of thought, which shuts out all other considerations.

About the most serious drawback to bee-keeping as a restful job, is the natural growth of our individual ambitions—a growth which surely indicates a renewal of general strength, but a growth which sooner or later announces in no uncertain manner that we have yet another business on our hands which is demanding our attention, though begun only as an entertainment. But long before this stage is reached we have enjoyed many a happy holiday, and many times have been lulled to restful repose by the contented hum of the honey-bee, and have been charmed into real or fancied security, which latter answers admirably by the indescribable fascination always attendant upon the pursuit. However, were I to prescribe bee-keeping as a cure for nerve-rack, the prescription would be accompanied by the cautionary advice, to be taken in homeopathic doses.

There's no reason under the sun why women should not make money out of bees. Because one happens to be a woman, is no reason that she may not enter into most fields of labor. False notions on such subjects have ruined the lives of many in the past, and are still seeking victims for the future. How many good men—apiarists—have passed on, leaving behind but little else except that in which their hopes lay—the bee-yards—for their helpless families? Helpless! And, why so? Because they have been short-sighted, and did not take a kindred interest in maintaining an existence with the loved one no longer with them. Part of the bee-keeping, at least, is usually carried on right at home, and just why any woman would not take enough interest to understand the methods sufficiently well to sustain herself and family in the event of being compelled so to do, is a mystery.

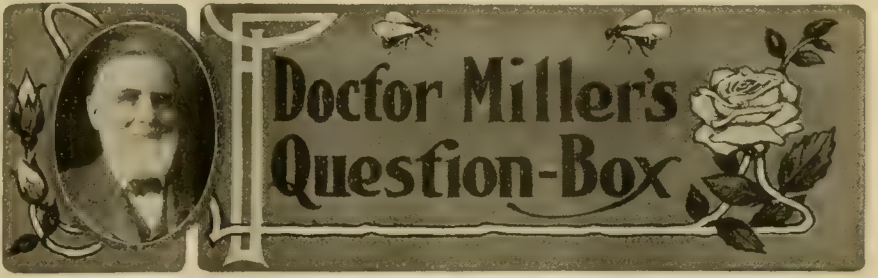
Many times have stricken widows applied to me for advice and help, in their hour of dire distress, because they knew not in the least where and how to take hold to help themselves. These same women had had every opportunity to understand the bee-keeping business; their husbands would have been only too glad of their company and assistance, not to mention the interest they might have evinced; but those opportunities did not last, and now they were drifting at sea without rudder or oar.

On the other hand, instances there are where women have been able to take up the work laid down by their dear ones, and push that work to a successful finish. *All honor to them.*

Sisters, have you the opportunity of learning the bee-business? By all means make the best of that opportunity. Learn it just for the enjoyment there is in it—just for fun, as Mrs. Comstock expresses it. The time can not be better spent, even should you never need the knowledge gained; while the latter might mean the difference between a shattered, meaningless life and an active, helpful one.

MARY E. NULL.

Milan, Mo.



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Finding a Queen in a Colony

What is the best method of taking a queen from a colony to which you wish to introduce a new queen? As I am a beginner, I have much trouble in securing the old queen. My bees are blacks crossed with Italians.

KENTUCKY.

ANSWER.—The usual way is to look over the brood-combs till you find her, for unless you get the bees to running by too much smoke or too rough handling, the queen will generally be found on the combs that contain brood. You will use as little smoke as possible, and handle the combs very gently. If the bees once get to running, close the hive and try it an hour or so later. If you can not get her in this way, you might sift the bees through a queen-excluder, allowing the workers to go through and the queen to be caught.

Similarity Between Caucasian Drones and Workers

Doctor, I am beaten. On pages 845 and 846, in the closing remarks of your answers to my questions, you have drawn my attention to laying workers in the colony. There was no brood, unless it was quite young, and no drones except a few that may have gone in there from other colonies, but the queen was well received. I opened the hive two or three times the same day I introduced her; the bees were gentle, so I did not have to use any smoke, and I found the queen quietly moving amongst the bees, and all seemed to wait on her, and none tried to molest her. I clipped her wings before I introduced her. I caught most of the drones in a queen-trap, and I found that only a few could go through. There are no more drones hatching now, and the queen and her workers look like other hybrid bees. I have a colony of hybrid bees by the side of it, and I have got down on hands and knees to see if I could tell any difference in their looks, but I can't, and if I took the label off the hive I doubt very much if A. I. Root or any any other expert could tell the difference. The young queen produces bees a good deal like the first, but mostly Italians. The queens are marked—one a good deal like a 3-banded Italian worker, and the other like a fine Italian, the abdomen being yellow with a black tip. It seems to me this gives our queen-breeders a fine chance to sell their mismated queens for a good price.

IOWA.

ANSWER.—Thanks for further particulars. You opened the hive 2 or 3 times on the day you introduced the queen, and found her quietly moving about. That makes it pretty certain that no laying workers were there, and it may be that the queen was demoralized by her journey in the mails, laying drone-eggs for a short time thereafter—a thing that sometimes occurs The mystery still remains of drones issuing from worker-cells sealed flat, providing there was no mistake in observation. With regard to the character of the queen: as she was bought for a tested queen that means she was purely mated. From what you say as to her worker-progeny it seems pretty clear that she was not, and the dealer who made a mistake in the case will probably be glad to replace her, unless it be shown that it is a characteristic of pure Caucasians to produce such differently marked workers, which I think is not the case.

Wintering Bees in a Cellar or Shed

My bees have done well. I have a cellar 20x30 feet made of half boards and half sand, with the front even with the street. The back is 6 feet below the ground. The cellar is dry, and is 8 feet deep, and will not freeze in winter. Would I better put my bees into the cellar or let them stay in the shed I have built? The garden has a 7-foot fence made of ⅞-inch boards, placed close together, so that no wind can blow through them. The roof of the shed is of ⅞-inch boards 6 feet wide, 20 feet long, and 6 feet above the ground, with the front all boarded up, and fronting the south. It is also sheltered by houses all around, and gets the sun all day.

MASSACHUSETTS.

ANSWER.—I don't know. It will be a good plan to put part in each, and then you will judge better as to the future. If obliged to decide for one or the other, I should make a guess in favor of the cellar.

Why Did the Bees Leave?

A neighbor of mine put a swarm of bees into an 8-frame hive about June 15. They filled the hive with comb, brood, eggs, and honey about Aug. 15. They left it in that condition. The brood was hatching out after the swarm had left; there was no bee-moth, no robbers, and no ants to bother it. Why did they leave? ILLINOIS.

ANSWER.—Hard to guess why they should do such a fool thing when they had honey, and so were not starved out, and the only guess I can make is that a young queen was reared and the bees swarmed out and went with her on her wedding-trip. But I don't guarantee this guess in face of the fact that eggs were present, and so a laying queen must have been in the hive within 3 days. If any one has a better guess, he can have my place on the witness stand.

Perhaps Some New Bee-Disease

On page 802, is a communication signed "Illinois," and headed "Chaff Hive-Cover—Pure Italians," etc. He speaks about a bee-disease, and losing 100 colonies before he caught on to the trick. I wonder if his bees have the same diseases as mine have. I sent a sample to our State bee-inspector, and he pronounced it foul brood, but it would not be cured by the McEvoy treatment, nor would it yield to the Alexander method of treatment. It has the general symptoms of foul brood. However, it has none of the stringyness of foul brood nor the glue smell. The larvæ become almost ready to cap over, then turn a coffee color and turn up Chinaman-shoe fashion and die. The bees carry the grubs out, only to repeat the operation. It seems to be spasmodic in its operation, as sometimes I see only an isolated cell, and at other times some of the frames have almost all the larvæ dead. Then, when it is bad, it has a sourish smell. I sent a sample to the A. I. Root Co. and they say it is not foul brood. Whatever it is, it is very contagious, as I took some queen-cages that had never been used about my bees, but had been in a box with others that had been used about mine, over to my nephew, and he used them, and his bees are all diseased but one colony that he got from Texas about a year ago last spring. I have been trying for 3 years to cure my bees, but have not succeeded, and have lost all but 8 out of 30 colonies. Last fall I took all the honey away from them and fed them sugar-syrup. In the spring I shook them all out on new foundation and rendered up all the old combs, boiled all frames, took all hives and sprinkled them with coal-oil, burned them out, and the same with hive-covers and bottom-boards. The refuse, after rendering, I buried 2 feet under ground. So I think there was no chance of spreading it. The smoker I washed in carbolic acid, also all the tools and my hands—tools and tips of my fingers in pure carbolic acid. I have sent a sample to Dr. E. F. Phillips, at Washington, or rather, A. I. Root sent it for me, but I have not heard from them as yet. I think it is some new disease in this part of the country, and it is getting rid of almost all the bees here. ILLINOIS.

ANSWER.—As I have said a number of times, I'm not an expert in bee-diseases, and don't know that I can say anything to help out, unless it be to suggest that to follow the McEvoy treatment I think you are required to operate when the flow of honey is on. Taking away the honey in the fall would hardly be counted orthodox, neither would throwing the bees on foundation in the spring, if you mean real spring before the honey-flow. I should place much reliance on the diagnosis of Dr. Phillips.

When to Remove Supers in the Fall

When shall I strip the hives of supers?

VERMONT.

ANSWER.—Long ago, if sections are in the supers. They should be taken off just as soon as you decide the bees will store nothing more in them. If not taken off yet, the sooner the better. As to extracting supers, they are not spoiled as sections are by being left on; but they may as well be taken off at once if they are still on.

Inspecting Hive Contents When Buying Bees

Is it advisable to lift off the tops of hives, and raise the frames to inspect the amount of honey for winter use, this time of year or later? The propolizing will then be broken, but one has no other way to determine the amount of honey for winter use, when buying hives of all shapes and sizes, as I have done this fall. It is impossible to lift the top out and inspect frames simply by "looking down." One can not do it. ARKANSAS.

ANSWER.—Only as a matter of necessity should a colony be disturbed after this time of year by having its fastenings broken up and its frames lifted out. It is better, though, for it to be thus disturbed than to starve. You can generally, however, decide the matter by weighing. Find out, if you can, about what a colony with its hive and everything but honey weighs, and then count that it should have enough honey to weigh 30 pounds more. That will oblige you to break open only the light ones, and that is better than to break open all.

Which is the Bottom-End of a Queen-Cell?

Which end of a queen-cell is the bottom—the end that a queen hatches out of, or the end where the egg is laid? PENN.

ANSWER.—The top is the bottom, always. Sounds tangled, doesn't it? You see it's like a teacup; when the cup stands full of tea, the bottom of the cup is toward the ground; and then when the cup is turned upside down the name "bottom" still belongs to the same part we called "bottom" before, although the bottom now points skyward. The bees build queen-cells upside down, and so the bottom of the cell, like the bottom of the teacup when turned upside down, always points skyward. (To be sure, in rare instances a queen-cell lies horizontally, but that occurs so seldom that it doesn't count.) Then when we speak of the other end of the cell, the illustration of the teacup fails. For when a teacup is upside down, the part that is downward is still called the top; but the part of a queen-cell that is downward is not the top, but "the lower end." So the egg is laid in the bottom of the cell, and the young queen emerges from the lower end. Absurd way of talking, isn't it? But please don't blame me; I wasn't born when bee-keepers agreed to talk that way about a queen-cell.

Hive-Entrances and Cushions in Cellar-Wintering of Bees

1. How big shall the entrance be for cellar-wintering, the temperature 40 degrees, Fahr.? My hives are 18 inches wide, and the entrance is ¾ inch, full width. Is this entrance too big for strong colonies?

2. Is there any need of having cushions on the top for cellar-wintering, temperature 40 degrees, Fahr.? IOWA.

ANSWERS.—1. For cellaring there is no danger of having the entrance too large. Your 18x¾ entrance is none too large for a strong or a weak colony. My hive-entrances are nearly twice as large; they are 12x2 inches.

2. There is no need of cushions if the cover fits close and there is a large entrance.

Feeding Unsalable Honey in Sections

At the end of our principal honey-flow we had quite a number of unfinished sections. We put these in supers and back on the hives. They have since been filled, but with a grade of honey unfit for the market. We wish so to manipulate this that we can save the sections for honey next season. I notice you advise leaving the supers on during the winter where the weather is not too severe. Would it be well to put on queen-excluding boards in order to prevent brood in the sections, or would this really be a drawback any way? We wish each colony to swarm once in the spring. TEXAS.

ANSWER.—I'm afraid I didn't express myself very clearly if you got the idea that I advised leaving sections on the hive over winter. I wish you had referred to the page. Not only do I not advise that, but advise against it very strongly. If left on the hives over winter, it is not likely they would be in good condition for market, no matter if afterward filled with the finest honey. Sections should never be left on the hive for a day after you are satisfied the bees are through storing. When not storing honey in them, the bees are likely to soil them with propolis and darken them. Better take them off right straight, and not put them on again till about the time the bees need them next year. Excluders would not be needed if sections were left on.

Honey in Sections on Hives for Winter Stores—Italianizing

1. I have some colonies that will be short of stores this winter, and also have a lot of unfinished sections. How would it do for me to uncap the sections and put them back on the hives? Will the bees carry the honey down?

2. I have 40 colonies of bees, and 9 of them Italian. What is the best method of Italianizing the balance of my apiary next spring without any loss? VIRGINIA.

ANSWERS.—If there is vacant space in the brood-chamber the bees will be likely to carry the honey down satisfactorily; but when they are fairly provided below they are sometimes very slow about taking it down, seeming to think it is not a bad thing to have some honey above. The cells that are uncapped are more promptly emptied than those not yet capped, as the bees are not satisfied with the rough way in which man leaves them, and begin emptying out to put them in order, and when they begin taking honey out of a cell they are likely to empty the entire cell. It is possible that one might make sure of their starting on the unsealed cells by sprinkling them with sweetened water.

2. Something depends upon the management in general, in deciding what is the best way to Italianize. Better not do it in the spring, strictly speaking. Wait till near the time for swarming, perhaps beginning 2 or 3 weeks before you think there will be any swarming, strengthening the 9 Italian colonies by giving them combs of sealed brood from the strongest of the other colonies. That will make a pretty sure thing of it that the Italian colonies will swarm first, for strengthening the Italians will make them swarm earlier than they otherwise would, and taking brood from the blacks will make them delay swarming. When taking brood from the blacks, you can replace the frames of brood with frames containing little or no brood, or frames containing very young brood, which frames you will take from the Italians. Another way is to give the Italians a second story and fill up the two stories with brood, but in that case there is the danger that giving so much room may delay swarming. But if you build up into a 2-story colony, and then just before swarming time reduce to one story, the chances for swarming will be increased.

When the first Italian colony swarms, set the swarm on the old stand, and put the mother colony on the stand of the strongest of the black colonies, putting the black on a new stand. The field-force of the removed black will join the now queenless Italian, making it again strong, and you can count on a swarm from it in about 8 days. Hive this swarm on the stand it came from, and put the Italian on the stand of a black. In from 1 to 3 days another swarm will issue from the Italian, which you will treat in the same way. The Italian will be likely to continue to swarm several times more, if each time it swarms you put the swarm on the stand from which it came, and put the Italian in place of a black colony, removing the black to a new stand.

If the whole 9 of the Italians swarm, as a result of such treatment, you will see that it will need only 3 after-swarms from each of them to put a swarm with an Italian in place of each of the 31 blacks, and 5 to spare, giving you now 40 Italian colonies and 31 blacks. With the strengthening you give each time, it would be nothing strange to average more than the 3 after-swarms, and you can break up some of the black colonies, destroying their queens, and using the brood and bees to strengthen the swarms with virgin queens. Or, a little later, you could destroy any or all of the black queens, a day or two later giving a sealed queen-cell of Italian stock.

I thank you for your cheering words.

Reports and Experiences

ing vs. Other Rural Pursuits

Th article of G. M. Doolittle's, on page 815, seems to me is a very "good one to write out," and one which should, on its merits, stir up the brain-matter of many ready thinkers. Doolittle says that many farmers are worth from $50,000 to $500,000, which, obviously, most of us will acknowledge; and that Adam Grimm, probably an exceptional case, was worth $22,000 at his death; which facts he collects as a comparison as to profits accumulated from the business of bee-keeping and of farming.

Now, as it is the intention of this writer to furnish proof that Mr. Doolittle did not treat the subject "rightly," or single out the details which are prominent factors in the accumulation of profits in either case, I take such liberty with the hope that more light may shine, and some one become benefited thereby.

For instance, when a man like Mr. Grimm undertakes the bee-business as his chosen pursuit, I imagine he does so with the direct intention of depending upon that singly to furnish his livelihood and to satisfy his desire for a paying investment. For love, or for the want of something to fill an idle hour, not merely for lust or gain, he may have a few hens, or, perchance, a cow or two—anything his turn of mind might suggest—although such additions to a family man not a farmer, materially helps to keep down living expenses.

When a man starts farming after the fashion of those $50,000 or $500,000 men, he gets hold of a large farm, and then proceeds to stock it up in the best manner to suit his needs, and begins to reap his harvests in every way possible. Such farmers have their orchards, grain-fields, hay-fields, dairy, sheep, swine, poultry, etc., all of which add to his bank account in season.

The bee-keepers of Grimm's style have no variety of assets, as their one asset is the bees, the product the honey, probably a few queens or some wax.

Let a farmer adhere to the production of any one article, as does the bee-keeper, and it is a question if his bank account will swell any larger or faster than the other, for evidence can not be positive in either case, although chances seem to favor the workers that sting. Please, Mr. Doolittle, don't think hard of me, for I mean not to cross you with unkindness, only hoping you will begin again where you left off, and give us your best convictions as gained by valued experiences.

RALPH P. FISHER.

Great Meadows, N. J., Oct. 1.

Good Report for the Season

I agreed in August to write when I extracted, and tell how my bees did this season. I had 28 colonies, spring count. Fourteen of them split all up and increased to 51. They are all fine colonies in 10-frame hives, chockful of bees and honey. The other 14 stayed together all summer. I got only one swarm from them, and they gave me 119 gallons of extracted honey, and 122 pounds in sections 4¼x4¼. My extracted honey weighs 12 pounds and 10 ounces to the gallon. Could that be called a good yield?

C. W. HOPSECGER.

Clear Lake, Wash., Sept. 26.

The Season in Mississippi

The season has been much better here than was expected early in the spring. Bees did nothing before July 15, but did very well from that time up to Sept. 15, when wet weather set in; and at this date it is still raining, with not more than 24 hours of sunshine in 2 weeks.

My average for the season was 102 well-filled sections per colony, spring count. My best colony produced 171 sections and increased to 3 colonies. These are hybrids, and I will say here that I have never had any pure-bred bees that would equal hybrids as honey-gatherers. This same colony gave me about double my next best colony last season.

I have a colony of golden Italians that did not swarm at all—was boiling over with bees all the season—that gave 60 sections, or a little more than one-third as much as the hybrids; and they out-sting the hybrids. No wonder Dr. Miller sticks to his hybrids—they are the bees for honey—and by the infusion of new blood, every year or two will, I think, give better returns than pure Italians.

I am in a very bad locality for propolis, and find the goldens much worse at propolizing than either hybrids or blacks. Blacks are the best in that respect of any I have tried.

Our main sources for honey are cotton, field-peas, and bitter-weed. The last-named is not fit for human consumption, but is all right for winter stores, and comes in last in the fall.

I consider the field-pea one of the very best honey-plants. The honey from it is of a light yellow color, and fine flavor. There are some small patches of sweet clover here, and it is spreading, and there will soon be enough of it to be of much help. There are very few bees in this locality.

J. D. ROWAN.

Lee Co., Miss., Oct. 5.

Remedy for Robber-Bees

I would like to write something with the hope that it may benefit some bee-keeper who gets in trouble with robber-bees. Last week, when we were fixing the bees for the winter, some of them started to rob a colony. I took a piece of wire-screen and leaned it up against the front of the hive, then I took a piece of rag and poured some chicken-louse remedy on it. It has an odor that the bees do not appreciate. I laid the rag under the screen in front of the hive, and it was only a short time before the robbers were gone. I hope I have made myself understood, for I think it is a good thing.

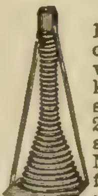
I told last year about putting combs away with paper between the hives sprinkled with sulphur. I have lost no combs since I fixed them that way. Sulphur is good for many things. Any one who is troubled with cutworms in the garden, try mixing sulphur with the seed.

F. Z. DEXTER.

Lone Rock, Wis., Oct. 3.

J. E. Johnson's Barred Rocks

My Circular, giving valuable information, is free. Choice Cockerels from special mating of 15 of my very best winter laying pullets, and 12 pound Bradley Strain Cock. I can please you if in need of young cockerels. Prices upon request. J. E. JOHNSON, Williamsfield, Ill.



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Biographs of Beedomites

(Continued from page 894.)

and they were Mr. J. E. Johnson's by right of discovery. But the following spring he had only the box and some dead bees left. In the meantime, however, he read "A B C of Bee Culture," so his father had to get him another colony. This time they were in a Langstroth hive, and he still has the descendants of that colony. That was some 23 years ago. During the time intervening Mr. Johnson has bought queens from many different breeders, so that the blood of his first bees must be pretty thin in those of his present apiary.

Mr. E. D. Woods was formerly an engineer on the Chicago, Burlington & Quincy Railroad, and handled the engine-throttle for 5 years. But after the great railroad strike he located in Galesburg, Ill., and does an extensive business in market-gardening, besides keeping from 50 to 80 colonies of bees. His wife, and daughter "Nellie," help him with his work in the apiary during the busy season.

Mr. Woods has done much to make the meetings of the Western Illinois Bee-Keepers' Association a success. He was also one of the car of happy bee-keepers that attended the Los Angeles convention of the National Association. Mr. Woods has the knack of manipulating bees very rapidly, and works for both comb and extracted honey, always getting good prices for his product.

Alvah A. Reynolds.—The subject of this sketch was born in Westchester Co., N. Y., in 1830. He learned the carpenter trade when from 16 to 20 years old, and worked in New York City for several years. He came to Illinois in 1855, and was married in 1859. He bought his first 2 colonies of bees in 1870, in log hives, and Quinby's bee-book the same year, having been stricken with bee-fever from which he has never entirely recovered. In 1871 he bought an Italian colony of bees and transferred all his apiary into frame hives.

In 1876 he attended a bee-keepers' convention in New York City, and also a large convention in Chicago, about 1879. The late Charles Dadant accompanied him as far as Oneida, Ill., on their way home.

Mr. Reynolds also visited Moses Quinby, near White Plains, N. Y. He attended conventions at Monmouth, Ill., and Burlington, Iowa. Mr. Scudder was president of the latter, and Mr. Kellogg was secretary. Both of these men bought bees of Mr. Reynolds, Mr. Scudder taking 50 colonies at $4 50 per colony, from which he got honey enough the first year to pay for the bees. He shipped his honey by boat to St. Paul, Minn.

Mr Reynolds helped to organize the Western Illinois Bee-Keepers' Association, and has attended every meeting. He is always jolly, wears a continuous smile, and is a big help to any convention He is also interested in fruit-growing, and owns a farm of 160 acres valued at $150 to $175 per acre.

Mr. Reynolds is a Christian in every sense of the word, and is a kind and generous friend to all who know him. Quite a few years ago Mr. and Mrs. Reynolds called their 6 children together and gave each of them a present of land and money, worth now about $12,000.

At one time Mr. Reynolds lost all his bees by foul brood, but, with Inspector Smith's help, has gotten entirely rid of the disease.

Some years ago Mrs. Reynolds died, and one of his daughters passed away this year, but Mr. R. is still strong and hearty for his 76 years.

Wanted A man who wants a permanent position. To do all kinds of work on a small farm. To help with bees and an extensive honey business. Write wages wanted, and particulars. **H. C. AHLERS,** West Bend, Wis. R.F.D. 1. Tel. 829, Ring 4.
43Atf Please mention the Bee Journal.

Our Early-Order Discounts on

BEE-SUPPLIES

are now in effect. We furnish **EVERYTHING** needed in practical Bee-Culture, at lowest prices.

We make the best-finished and substantial

SHIPPING-CASES

in free Shipping-Crates.

Our HONEY-EXTRACTORS

are not excelled for durability, fine workmanship, and practical utility.

Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.

Catalogs issued in English or German.

Mention Bee Journal when writing.

CONVENTION NOTICES.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. Hutchinson, Sec.

Ontario.—The annual meeting of the Ontario Bee-Keepers' Association will be held in the York County Council Chamber, Toronto, on Wednesday, Thursday and Friday, Nov. 7, 8 and 9, 1906. Hotel accommodations can be had at the Palmer House, $1.50 per day; or $1 per day at the Albion Hotel. We are expecting to have a good convention. The program is to be one of the best. During the same week the Ontario Horticultural Exhibition will beheld. This show of fruit, flowers, honey and vegetables is acknowledged to be well worth visiting.

We extend a very cordial invitation to any American bee-keeper that can attend, to take part in the discussions. Single fare will be given from all points in Ontario by the different railroads. W. Couse, Sec.

Streetsville, Ont.

The Frisco is the Line

To take to the Bee-Keepers' Convention. First-class equipment all the way. Through service from Chicago to San Antonio with exception of change at St. Louis. You run through the beautiful Ozarks over this scenic line to the Southwest. The convention is held at San Antonio in November; the weather is delightful; it is just the time to see this great section at its best.

For additional information write

FRISCO

W. H. RICHARDSON, General Passenger Agent,
CHICAGO, ILL.

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Gloves for Handling BEES

Something New.
Something You Want.

Our specially prepared Gloves soften the hands and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff We furnish them without armlets or sleeves for using in sweeping, gardening or general housework, driving or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white.

All the points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail, or with other goods, at the following low prices:

Bee Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies..... .35
Men's Gauntlets, fleece-lined..... .... .35
Ladies'...................................... .35
Ladies', unlined, for wearing at night or during doing light housework................ .40

Early Order Discounts on Bee-Supplies (excepting above and a few other articles) as follows:—

7 percent for cash with order before Oct. 1st
6 " " " " Nov. 1st
5 " " " " Dec. 1st
4 " " " " Jan. 1st
3 " " " " Feb. 1st

If you haven't our 1906 catalog, send for one and a free copy of the American Bee Keeper (50c a year. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

Will buy or sell you . . HONEY If you have any to sell, . . . mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and Beeswax

CINCINNATI, Oct. 20.—The demand for comb honey is good. No. 1, white, brings 14½c wholesale, and 16c retail, by the case. Off grades less from 2@3c per pound. White clover extracted brings in barrels, 8c per pound; in cans, 8½c; amber grades, light, 6c in barrels; dark, 5½c in barrels; in cans, ½c per pound more. Beeswax, 30c. C. H. W. WEBER.

TOLEDO, Oct. 8.—The market on comb honey remains firm. The demand is fair, and the receipts equal to the demand. Fancy white comb honey in a retail way brings 15@16c, with very little demand for low grades Extracted white clover in barrels brings 7½@8½c; cans the same. Beeswax, 26@28c. GRIGGS BROS.

INDIANAPOLIS, Sept. 29.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

PHILADELPHIA, Oct. 8—Comb honey has been arriving quite freely, and the demand is quite brisk at this time. Prices seem to have an upward tendency. The outlook is for still higher prices. We would advise parties who have comb honey to ship, to send it in at once and sell it while the demand is on, for September, October and November are the big honey months. We quote: Fancy white comb, 16@18c; No. 1, 14@15c; amber, 12@14c. Fancy white extracted, 8@9c; light amber, 7@8c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Oct. 9.—The demand for comb honey is very good, especially for fancy stock, and arrivals are now quite heavy. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12@13c; buckwheat at 11c per pound. Extracted is in good demand and prices are somewhat firmer. We quote California white at 7½c; light amber at 6½@7c, and amber at 6c per pound. Southern honey in half-barrels in good demand and finding ready sale at from 55@65c per gallon, according to quality. Beeswax is somewhat weaker, and 30c is about top price.
HILDRETH & SEGELKEN.

CHICAGO, Oct. 19.—Market is practically bare of honey of all kinds. Choice white comb brings 15@16c, with off grades 1@3c less. Extracted, 7@8c for white; amber, 6½@7½c; buckwheat, 6@6½c. Beeswax selling upon arrival at 30c. R. A. BURNETT & Co.

KANSAS CITY, Oct. 9.—The demand for both extracted and comb honey continues good; the supply is light. We quote No. 1, white comb, 24-section cases, per case, $3; No. 2, $2.75 Extracted, white, in cans, 7 cents; amber, 6@6½c. Beeswax, 25c. C. C. CLEMONS & Co.

CINCINNATI, Sept. 18.—The demand for comb honey is good; fancy and No. 1 selling freely at 15@16c; lower grades not wanted at any price. The market on extracted honey is quiet, as quantities remain unsold from last season. We quote amber at 5½@7c, according to quality. Fancy extracted white clover at 7½@8c. We are paying 29@30c for choice yellow beeswax free from dirt. THE FRED W. MUTH Co.

For Rent on Shares

275 Colonies of **BEES** in 10 frame Langstroth hives. These are the bees The Rambler run 2 years.
J. C. McCUBBIN,
43A3t REEDLEY, Fresno Co., CALIF.

WANTED

To buy for cash, Fancy Comb and Extracted Honey. R. A. HOLEKAMP,
31A13t 4263 Virginia Ave, ST. LOUIS, Mo.

HONEY AND BEESWAX

When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

QUOTE US We Buy Car-loads of **Extracted Honey!**

THE FRED W. MUTH CO., 51 Walnut St., Cincinnati. O.
41Atf Please mention the Bee Journal.

Queens A fine Honey-Gathering Strain of Italians and Carniolans, at 75 cents each; 3 for $2; 6 for $3.50; or $6.50 per dozen, for Untested. Tested, $1 each, or $10 a dozen.

GEORGE W. BARNES.
17A26t 138 N. Pleasant St., NORWALK, OHIO

WANTED TO BUY AT TOP PRICES

WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
——Catalog Free——
29Atf **1004 East Wash. Street, INDIANAPOLIS, IND.**

HONEY! HONEY! HONEY!

Have you any to sell? If so, see us before selling. We pay highest Market Price for both Comb and Extracted Honey—also Beeswax. . . .

GRIGGS BROTHERS, 521 Monroe Street, Toledo, Ohio

Mention Bee Journal when writing.

HONEY

HONEY

HONEY

Instead of having honey offered us by bee-keepers this season, we have had enquiries for good honey from nearly every quarter. We have secured an unusually fine lot of

WATER-WHITE ALFALFA HONEY

packed in 60-pound cans, two in a case. We offer the same at the following prices:

One 60-pound can	8½ cents per pound
Two 60 pound cans	8 " "
Ten 60-pound cans or more	7½ " "

This honey is giving entire satisfaction and is selling where we have previously furnished White Clover. Sample on application.

DADANT & SONS, HAMILTON, ILL.

(We are giving liberal discounts on Bee-Supplies now.)

HONEY

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN

265 & 267 Greenwich Street - NEW YORK, N. Y.

30Atf

46th Year NOVEMER 1, 1906 Number 44

AMERICAN BEE JOURNAL

APIARY OF
F. C. WIGGINS, OF SAN DIEGO CO., CALIF.

APIARY OF
LENGST & KOENIG, OF SAGINAW CO., MICH.
(See page 910)

TWENTY-PAGE NUMBER

American Bee Journal

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

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4 times....	5 per cent	100 lines...	5 per cent
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26 "	20 "	1000 " ...	20 "
52 "	30 "	2000 " ...	30 "

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

ITALIAN QUEENS

Too late to deliver them? Yes! But not too late to **begin to get ready for next spring!** I give personal attention to correspondence. My queens are guaranteed. Write at once to

ROBERT B. McCAIN,
2Atf YORKVILLE, ILL. R.F.D. 3.

Mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 75 cents; or we will send it with the Bee Journal for one year—both for only $1.50. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
334 Dearborn Street, CHICAGO, ILL.

"It is continuous advertising that impresses the public with the stability of a firm."

Special Bargains

in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

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Dittmer's Foundation

is the best foundation for you to use, because it is tough, transparent, will not sag, and has the odor of pure beeswax.

WORKING WAX FOR CASH A SPECIALTY

This is the cheapest way for you to secure your foundation.

BEESWAX ALWAYS WANTED

Our warehouse is well filled with all kinds of **Bee-Keepers' Supplies.**
5 percent Discount during November.

GUS DITTMER, Augusta, Wisconsin

IF YOU WANT TO KEEP POSTED UPON THE

GREATEST ÷ POLITICAL ÷ QUESTION

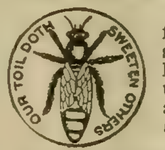
OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks


OUR TOIL DOTH SWEETEN OTHERS

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of **SUPPLIES.** Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. .·. .·. .·. **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

EARLY ORDER DISCOUNT During October I will offer a discount of 6 percent on Supplies for next season's use. In November the discount will be 5 percent. Cash must accompany order.

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

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Headquarters for Bee-Keepers during the National Convention

Grand Central Hotel

1410 West Commerce Street

SAN ANTONIO, TEXAS

Rooms newly furnished, light and airy.
Accommodations good. Rates, $1.25 per day.

Traveling Public invited to give us a Trial

MRS. M. E. HAWKINS, Proprietress

Fire Sale of Bee and Poultry Supplies

Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

New Lewis Goods at 5 percent Discount DURING NOVEMBER, EXCEPT ON HONEY-PACKAGES.

Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Golden Italian or Red Clover Queens **by return mail.** Untested, 75c; Select Untested Queens, $1; Tested, $1.25; Select Tested, $2.25. Full Colonies in up-to-date hives, and Nuclei, for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)
Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

Long, Good Advertising

27 years ago bee-keepers were surprised by the first Patent Bee-Smoker.

Bingham's Patented Smoker Improvements

Are dated 1878, 1882, 1892 and 1903.
6 percent Discount for October orders.

Any number, any size, copper or tin, delivered any time.

T. F. BINGHAM
Farwell, Mich.

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CAPON
TOOLS

Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor	25c
Poultry Marker	25c
French Killing Knife	50c
Capon Book Free.	

G. P. Pilling & Son, Philadelphia, Pa.

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The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

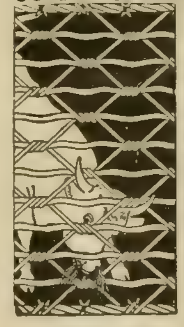
ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

☞ J. G. Goodner, of this State, writes me that "he prefers to pay $25 00 for a Rietsche Press rather than do without it."—A. G.

Mention Bee Journal when writing.

COILED SPRING

FENCE



Closely Woven. Can not Sag. **Every wire and every twist** is **a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

30 DAYS FREE TRIAL

and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made—how it is galvanized—why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 85 MUNCIE, INDIANA.

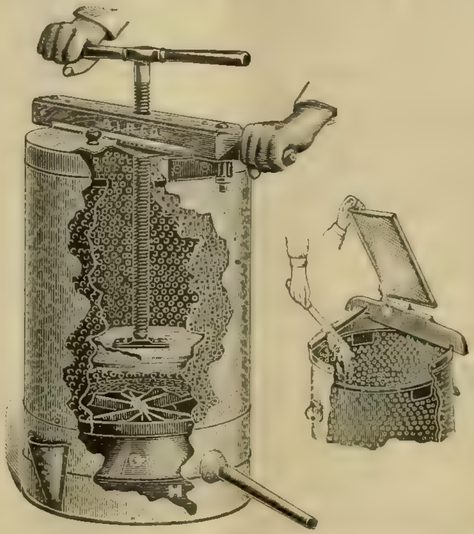
If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,
—FOR HIS—
"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

AN ITEM OF PROFIT



Now that the busy season is over why not add more profit to your year's work by collecting the scraps of wax that you have saved and that are lying around, and render them so they will be in marketable shape?

One disadvantage of the common methods of rendering is that a large percent of the wax is lost in the slumgum. Wax is a valuable product, and such losses prove so very expensive that it is a doubtful saving to use such fashioned methods.

With one of our German Wax-Presses you obtain nearly every particle of the wax. Indeed, some bee-keepers make a practice of buying up slum-gum from ordinary renderings and putting it through one of our German Presses at a handsome margin of profit.

One of our German Presses is almost a necessity in an up-to-date apiary. Not only can it be used as a wax-press but as an uncapping-can. Also it can be used in extracting honey from combs by pressure.

The machine is made in the best possible manner. The cross arm is of selected oak and will stand any strain. Bolts projecting through the ends of the arms engage with corresponding ears on the can in such a way that a side circular movement instantly releases it. Plunger is now made of cast-iron and sheet-metal, eliminating all the objectional features of wood.

The German Wax-Press is carried in stock at all our branch houses and agencies named in the list below, so can be obtained by bee-keepers in every part of the United States with minimum freight charges and at uniform price.

Price, $12

November Discounts on Early Orders, 5 percent. Don't forget.

Address Nearest Agent Below:

Alabama
*Wetumpka..........J. M. Jenkins

Canada
Toronto..........E. Grainger & Co.

California
*Fresno..........Madary Planing Mill
*Los Angeles..........California National Honey-Producers' Association

Colorado
Denver..........The L. A. Watkins Mdse. Co.
Fruita..........Fruita Fruit and Produce Ass'n

District of Columbia
Washington..........The A. I. Root Co.

Georgia
Savannah..........Howkins & Rush
124 Liberty St.

Illinois
Chicago..........The A. I. Root Co.
144 East Erie Street.

Indiana
Indianapolis..........Walter S. Pouder
Evansville..........Vickery Bros.

Iowa
Des Moines..........Joseph Nysewander

Kansas
Augusta..........Carl F. Buck

Mississippi
Brazelia..........George A. Hummer

Massachusetts
Boston..........H. H. Jepson. 182 Friend Street
Lyonsville..........W. W. Cary & Son

Maine
Mechanic Falls..........The A. I. Root Co.

Maryland
Baltimore..........Rawlins Implement Co.

Michigan
Bell Branch..........M. H. Hunt & Son
Fremont..........George E. Hilton

Minnesota
St. Paul..........The A. I. Root Co.
1024 Mississippi Street.

Missouri
High Hill..........Jno Nebel & Son Supply Co.
Springfield..........Springfield Seed Co.
St. Louis..........Blanke & Hauk

New Mexico
Carlsbad..........Edward Scoggin

New York
Syracuse..........The A. I. Root Co.
New York City..........The A. I. Root Co.
44 Vesey Street.

Ohio
Columbus Grove..........McAdams Seed Co.
Toledo..........Griggs Bros., 521 Monroe St.
Zanesville..........E. W. Pierce
Cincinnati..........C. H. W. Weber
2146 Central Avenue

Oregon
Portland..........Portland Seed Co.

Pennsylvania
Du Bois..........Prothero & Arnold
Philadelphia..........The A. I. Root Co.
10 Vine Street
Williamsport..........E. E. Pressler
633 Lycoming Street

Texas
Dallas..........Texas Seed and Floral Co.
San Antonio..........Udo Toepperwein
Uvalde..........D. M. Edwards

Utah
Ogden..........The Superior Honey Co.

Virginia
Spottswood..........W. E. Tribbett

* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

LANGSTROTH
CHAS. DADANT

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor CHICAGO, ILL., NOVEMBER 1, 1906 Vol. XLVI—No. 44

Editorial Notes and Comments

Texas Honey-Folks at the National

Uvalde Co., Tex., has been considered one of the greatest bee-keeping locations in this country. It is expected that it will be represented by many from its large number of bee-keepers at the San Antonio Convention of the National. Mr. W. O. Victor, President of the Texas Bee-Keepers' Association, was in Uvalde recently, interviewing bee-keepers on the entertainment of the members of the National, Nov. 8, 9, and 10. It is thought that possibly many who attend the convention would like to visit Uvalde county and inspect bee-keeping conditions there, as it is not far from San Antonio.

In a local newspaper, when speaking of the condition of the bee industry of Texas, Mr. Victor said there was no reason to be discouraged. Bee-keeping, as a business, was in better shape there than ever before. While some years the honey crop was short, it was still a profitable industry, one year with another. Mr. Victor remarked further as follows:

"The recent law passed by the Texas Legislature for protection of the bees from foul-brood disease has been of untold benefit to the bee-industry. In some sections the industry would have been ruined but for the protection afforded by this Act. No money appropriated by the Legislature was ever put to a better use. Of course, more was really needed, but what was given was of great use to the bee-inspectors for stamping out the dreaded disease.

"I believe there are sections of country, especially in Uvalde county and vicinity, where the bee-business yields greater revenue than any other industry. Considering the investment, few businesses yield such returns. However, care should be taken to guard against overstocking a range, as there is just so much honey to gather, and bees can look after just so much territory."

Bees as Hive-Ventilators

The following item, sent to us by one of our readers, comes nearer the mark than do most fugitive paragraphs concerning bees:

It is not generally known, but most bee-keepers will inform you that such is the case, that each bee-hive has a corps of what could properly be termed "ventilating bees." During the hot season these ventilators station themselves at the entrance to the hive and fan the interior with the incessant motion of their wings. These ventilating corps are usually in relays of from four to a half-dozen, and they are relieved at short intervals by fresh workers, who keep up the fanning process. They are kept at work by a sort of patrol of bees, which insures incessant activity on the part of the fanners during the time they are at work. This story may sound strange to those who know but little concerning the wonderful intelligence of bees, but it is a scientific fact that has often been authenticated.

It might be said further, that not only may ventilators be found at the entrance, but also throughout the hive. To "fan the interior" sounds as though the ventilating bees at the entrance were blowing air into the entrance. Instead of that, one can easily tell by holding the back of the hand near the entrance that a stream of air is being forced outward. Instead of only "four to a half dozen" being seen at the entrance, a much larger number may often be seen.

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Foul Brood With Queens by Mail

The editor of the Bee-Keepers' Review says:

When I last met Mr. France he recounted an experience where he found foul brood in each alternate hive in a row of a dozen colonies, and the owner was most positive in his assertions that there was no possible way in which foul brood could have been brought into this yard—that is, to his knowledge. Foul brood inspectors inherit, or soon acquire, the habit of poking around and finding a great many things that escape the ordinary observer, and it was not long before Mr. France ran across half a dozen queen-cages. "Hello!" he says, "What have you got here?" "Why, they are queen-cages in which I bought some queens." "In which colonies did you introduce them?" Then there was some scratching of the head, but it was finally admitted that it was in those very hives where foul brood was found. "Did you let the bees eat out the candy to release the queen?" "Yes," was the reply. That settled it as to where the foul brood came from.

The only safety is in removing the queen in the house, and destroying the cage and bees, putting the queen into the new, clean cage.

When one orders a queen by mail, one should feel safe in trusting to the sender that by no possibility shall anything be sent that could arouse a suspicion of danger. No honest man would knowingly send infected food with a queen, and probably there has not been one case in a thousand where such a thing has happened. Yet through accident or carelessness such a thing might happen, and the consequences in such a case are so exceedingly grave that the advice of Editor Hutchinson is sound:

Kill all the bees of the escort, and put the queen in a clean cage. In addition to this, instead of letting the old cage with its contents lie around, burn it.

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Black Bees vs. Italians

W. Reid writes in the Australian Bee-Bulletin:

A neighbor had 33 colonies; 31 blacks died of starvation, leaving him 2 Italian colonies. Another bee-keeper alongside of him, at the same time, had 19 blacks and 1 Italian. The 19 died from starvation, leaving him the 1 Italian. I knew another bee-keeper who had 42 colonies—2 of them Italians. Bee-moths ate out the 40 blacks, leaving the 2 Italians.

Mr. D. M. Macdonald commented somewhat savagely upon this in the British Bee Journal, having no hesitation in voting the "facts" given as fiction, and counseling Editor Tipper to edit such copy in the future. To this came the following editorial reply in the Australian Bee-Bulletin:

The above is by a Mr. Macdonald, of Banf, Scotland, who evidently knows little of what he is writing about. Let him place an Italian colony beside a black one, and he will soon find the blacks are being robbed out. Tha is a common experience here in Australia. For the last 25 years Australian bee-keepers have been importing and breeding from the best Italian queens. There has been nothing of the kind done with the blacks, which, with a few exceptions, are doomed by every advanced bee-keeper. The only man we know who was partial to black bees got an Italian queen from us. He had it only a short time when he came to complain that the bees from the queen he had from us were robbing his black colonies. From the care taken during the past 25 years to rear good Italian queens, we believe there are none superior to them in any part of the world.

The loss of 20 to 40 colonies of blacks, while 1 or 2 colonies of Italians survived under the same conditions, though being regarded as something a little exceptional, would by no means be considered by the average American bee-keeper in the same light as by Mr. Macdonald. Nevertheless it will not do to be too hasty in condemning Mr. Macdonald as a giddy-headed ignoramus. If any one may judge from his frequent contributions to journals across the sea, he is a well-informed bee-keeper of good head and heart. Evidently, however, he does not take sufficiently into consideration the difference expressed by that sometimes abused, and yet ever-pervading term, "locality." In Great Britain there seems to be a division of opinion, some maintaining that Italians are superior, but a large number of intelligent men giving the palm to the blacks. In this country there can hardly be said to be any division of opinion. Perhaps there is not an intelligent bee-keeper in the land who wholly prefers black bees; and when for experimental purposes specimens of pure blood are sought, the quest is a very difficult one.

It may not be easy to explain in all cases why apparently conflicting testimony may be true, but when witnesses known to be "good men and true" appear on both sides, we are bound to be charitable enough to accept both, however the discrepancies may be reconciled afterward. It is possible that the climate of our British friends may have something to do with the case. More likely, perhaps, it is a difference in the strain of bees in the different countries. There are some very poor Italian bees as well as some very good; and all blacks are not alike. It lies easily within the range of possibility that the first blacks introduced into this country were inferior to the average black bee in England, and the inferiority might be expected to be perpetuated.

There is still another consideration. On account of the prevailing sentiment in favor of the yellow bees in this country, intelligent care of leading bee-keepers has been devoted to keep up the standard and to improve it, while the blacks have been allowed to sink into "innocuous desuetude." Is it any wonder that the gap between the two should have grown wider, and that the same thing should obtain, possibly in a still more marked degree, in Australia? On the other hand, with chief attention in England devoted to the blacks, why should they not advance?

"In all things charity."

Miscellaneous News-Items

San Antonio National—Last Notice.—All arrangements have been completed for the special car of bee-keepers to leave Chicago at 10:37 a.m., Nov. 6, for the National Convention at San Antonio Nov. 8, 9, and 10. Berths are being reserved for all who have requested them. Tickets can be bought at the La Salle Street Station, corner of La Salle and Van Buren Streets, Chicago. The round-trip rate is $25, with $4.25 extra for berth one way in special sleeper. There will be room for about 50 persons in this car. We hope there will be enough bee-keepers getting on at Chicago and points along the way to fill it.

This is the last notice that will appear in the American Bee Journal referring to the convention, as it will be held next week. If there is any further information desired concerning the special car, we will be glad to furnish it by letter.

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Dr. C. S. Phillips, until recently editor of The Apiarist, published at Waco, Tex., has written us, extending an invitation for the special car of bee-keepers to "stop off in Waco a few hours and take in the sights," when going to the National convention in San Antonio. Their Business Men's Club would be glad to entertain the visitors while in their city. No doubt all who go in the special car would be pleased to accept this kind invitation, but there would not be time to do so, as by going right through, without any stop at all, the car would arrive in San Antonio just in time for the Bee-Keepers' Day at the Fair, November 8. We have written Dr. Phillips, thanking him for the invitation, and expressing regrets that there will not be time to stop off in Waco.

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The Apiary of F. C. Wiggins, of San Diego Co., Calif., appears on the first page. Accompanying the photograph was the following account of Mr. W.'s bee-keeping experiences, written Oct. 1:

I commenced keeping bees 18 years ago in Paradise Valley, near National City. I was then renting an orange ranch, and the house in which I lived was a large 2-story building of 12 rooms, and contained at one time 12 colonies of bees, most of them in the spaces between the studding. At that time I knew scarcely anything about bees, except that they could sting, and stored honey, which was very good to eat.

My first swarm I found clustered on a bush right down near the ground, and I secured them by fastening a long rope, near the middle, to the top of a box, and with the help of one of my boys, we lowered the box down over the swarm. During the summer we captured 8 or 10 swarms, most of them found clustered on the orange trees. One of them must have had its home on a limb a year or more, for it had about as much comb as would be found in an ordinary hive, and had reared brood till the combs were dark.

Well, I got the bee-fever pretty badly, and commenced reading up by subscribing for several bee-papers, among which was the "Old Reliable," and I have taken it ever since. Then I learned, among several other things, that the little pellets which the bees bring in on their legs were pollen, and not pure wax.

My apiary at present is situated in a small canyon about 4 miles from the Bay of San Diego, and contains 125 colonies. I produce extracted honey in varying quantities according to the season, from an average yield of 175 pounds per colony to having to feed 1500 pounds of sugar and honey to keep the bees from starving. I have never had any disease in my apiary, except an occasional case of bee-paralysis. I have a small gasoline engine, and make my own hives, and, of course, have invented several things apiarian, more or less useful. I find the cost of the material to be just about one-half the price charged by supply dealers for hives in the flat. I use 10-frame hives, and find them as large as I care to handle.

F. C. Wiggins.

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The Apiary of Lengst & Koenig, of Saginaw Co., Mich., is shown on the first page. When sending the original picture, Oct. 5, they wrote as follows:

Editor American Bee Journal—

The accompanying photograph is of our Bridgeport yard. It doesn't show all of the colonies, as there are an even 100 in it. The apiarist is the senior member of the firm, Mr. George Lengst. We run entirely for extracted honey, using shallow extracting frames, 5⅜ inches deep. For brood-chamber we have both the 8 and 10 frame Langstroth hives.

In this locality we prefer the Miller nail-spaced frame, on account of propolis. After two years' use of Hoffman frames it is almost impossible to get 10 of them in a 10-frame hive, the bees having gathered and daubed on so much propolis.

The past season was a poor one here, there being an average of only about 40 pounds of honey per colony, spring count; and those producing comb honey did not store so much. Our honey is mostly clover and basswood. We expected a good flow from goldenrod and asters, but it was a failure on account of the weather being too dry; but the bees are in good condition for winter. We winter them on the summer stands, packing with chaff on top in an empty super and wrapping tar-paper around all. All colonies with good queens and plenty of stores always come out in fine shape in the spring.

Lengst & Koenig.

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The National Program, for the San Antonio Convention, Nov. 8, 9, and 10, has been sent to us by Secretary Hutchinson, and is as follows:

Program for the National Convention.

The National Bee-Keepers' Association will hold its 37th annual convention Nov. 8, 9 and 10, 1906, in Market Hall, in San Antonio, Tex. Headquarters for bee-keepers will be at the Grand Central Hotel, which has given a special rate to bee-keepers of 50 cents a berth, and 25 cents for meals. This is a fine, new hotel, nicely furnished, has 100 rooms, and is located only one block from the passenger station of the I. & N. G. Railroad.

Thursday, Nov. 8 is Bee-Keepers' Day at the Fair, and has been so advertised by the Fair Association.

At several of the late conventions of the National, the program has been overloaded with papers, thus crowding out the most valuable part of the proceedings, viz., the Question-Box; and I have tried this time to remedy that objection.

FIRST DAY—FIRST SESSION.

The first session will be in the evening of Thursday, Nov. 8, beginning at 7:30 o'clock, and will consist of the reception of members, payment of dues, distribution of badges and numbers, and the Question-Box.

SECOND DAY—FIRST SESSION.

9:00 a.m.—A paper by E. D. Townsend, of Michigan, on "The Profitable Production of Extracted Honey."
Question-Box.

SECOND DAY—SECOND SESSION.

1:30 p.m.—A paper by R. F. Holtermann, of Ontario, Canada, on "The Difference Between Ripening and Evaporating Nectar."
Question-Box.

SECOND DAY—THIRD SESSION.

7:30 p.m.—A paper by Dr. E. F. Phillips, of Washington, D.C., on "What Science May Do for Bee Keeping."
Question-Box.

THIRD DAY—FIRST SESSION.

9:00 a.m.—A paper by W. H. Laws, of Texas, on "The Comparative Profits of Queen-Rearing and Honey-Production."
Question-Box.

THIRD DAY—SECOND SESSION.

1:30 p.m.—A paper by C. A. Hatch, of Wisconsin, on "How Can the National Assist its Members in Buying Goods and Selling Honey?"
Question-Box.
Adjournment. W. Z. HUTCHINSON, *Sec.*

The foregoing will surely allow ample time for the discussion of questions, which almost invariably proves to be the best part of a bee-keepers' convention.

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Mr. G. M. Doolittle, the well-known New York State bee-keeper, reports the past bee-season, in his locality, as being still poorer than that of last year. Yet he secured at his out-apiary an average of over 100 pounds of section honey per colony. If there is any honey to be had at all, Mr. Doolittle and his bees are quite likely to get it.

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Bee-Keepers' Souvenir Postal-Card.—We have secured a somewhat comic Souvenir Postal Card for bee-keepers, printed in 4 colors—red, yellow, blue and black. At the left end the following are pictured: An old-fashioned straw bee-hive with bees circling around and above it; a sad-eyed bear with his "hands" over his sweet-loving heart; a jar and a section of honey; also a spoon with a card attached, reading, "Come let us spoon awhile." At the bottom of the card, and to the right, are these words: "Eat thou honey because it is good."—Prov. 24:13. At the left of the bear's head, and encircled with bees, is this sentence: "I can not BEAR to lose you;" and at the top, and to the right of the bear's head and bees, is this stanza:

O won't you BEE my HONEY,
And cheer this lonely heart?
For I would hug you all the time,
And we would never part.

PRICES, postpaid: 3 cards for 10 cents (stamps or silver), or FREE with the American Bee Journal one year at $1.00; 10 for 25 cents; or 25 for 50 cents. There is a blank space on the card about 2 by 2½ inches in size for writing. Send all orders to the office of the American Bee Journal.

Contributed Articles

Requirements for Successful Wintering of Bees

BY G. M. DOOLITTLE

As the time draws near when the bees must go into winter quarters, there is a feeling of uneasiness which comes into the life of the bee-keeper who winters bees out on the summer stands. And well there may when we have so many winters in which the mercury stays below 45 degrees (the point which is needed that bees may safely fly), from the middle of November to the middle of March, thus giving 4 months of confinement during which bees must be constantly eating without any chance to void the accumulation from the food taken. If the weather and temperature is mild enough so that the bees can remain in that quiescent state which is required for safe wintering, a pound of honey a month suffices the whole colony, and in this state a colony could pass 6 months of confinement with ease; but if the cold is great enough so that they have to consume lots of honey to be used as "fuel," the colonies will become uneasy from their confinement and consume from 4 to 7 pounds a month, and soil their hive and themselves so as to cause their loss in from 6 weeks to 2 months from the time they "break the cluster" and commence to eat so voraciously.

To help control this matter cellar-wintering has proven to be the best plan, because from the even temperature maintained the bees need but little food to keep up the warmth they require during this period of partial activity which winter compels them to pass through. As but little food is required, the body of the bee easily contains said food after digestion, and thus all goes well.

Next to the cellar comes chaff-packed hives, because as the bees are surrounded by porous walls which take off the moisture passing from the bees' bodies, and also retain the warmth generated by themselves and the influence of the sun's rays, they are kept at a more uniform temperature than they would be without the chaff-packing, thereby lessening the consumption of honey, and enabling them better to throw off a part of the moisture contained in their food, and to contain the rest till the weather shall be sufficiently warm for them to fly. This method has a seeming advantage over cellar-wintering, in that it allows the bees to fly, if an opportunity permits during the winter, and were it not for that "if," many more would adopt it in our Northern States. But as that "if" is always there, and this chance to fly is always offset by the more uniform temperature of the cellar, and a consequent decrease in the consumption of stores, the cellar is preferable. And as these two ways are about the only feasible ones, let us next look after the other causes which help these plans to be a success or a failure. Those which look toward a failure are these:

1st. Poor honey; such as honey-dew, the juice from decayed fruit, soured and unsealed stores, etc., because the bees have to take into their bodies an excess of that which is not real food to them to sustain their existence, thereby distending their bodies uselessly, and, unless a chance to fly presents itself quite often, they must either die or become subject to spring dwindling, which is very often death to the colony in the end.

2d. All causes which disturb them in their winter repose, because as soon as they are disturbed they take into their bodies more food than is required for their existence and welfare, thus placing them (with the best of food) in the same condition that they would be with poor honey. So we see how important it is that they should have perfect quiet; that no mice or rats are allowed in or about the hives, and that the temperature of the cellar does not go so high or low as to make them uneasy.

3d. But few bees, or mostly old ones; because if but few bees they can not easily keep up the desired warmth without consuming an undue quantity of food, thus thwarting our object; if old bees, they will die of old age before the young ones, in sufficient numbers, emerge the next spring.

Those looking toward success are these: That those on summer stands have a flight once in from 4 to 6 weeks, and oftener as spring draws on; that each hive contains an abundance of bees, the larger part of which are young; plenty of good, sealed honey, or sugar syrup made of the best granulated sugar; a good queen, so that they may be satisfied in this direction; a hive of such dimensions that the bees may cluster compactly in the shape of a sphere, etc.; because all these things have a tendency toward accomplishing our object of keeping the bees in such a state of quietude that they can contain their feces for a great length of time, for, according to my opinion, upon this hangs all the secret of successful wintering.

I hear it often said that bees die more rapidly when a loss occurs in the spring, from the middle of March till fruit-bloom, when purifying flights occur quite often, and this when the bees have the very best of stores for wintering. Even so, the case has been the same in this locality. The reason was this: The vitality of the bees is so impaired by the strain brought to bear on them consequent upon holding their excrement for 4 or 5 months during a continual confinement of that duration, that they spring-dwindle, or, in other words, they die of premature old age, as work or exercise of any kind shortens the life of the bee very fast; hence, we have bees living only 6 or 8 weeks during June, July, and August, while the bees emerging in September and October live from 6 to 8 months if they can remain in the quiet state in which they should be in order to winter perfectly.

Borodino, N. Y.

Comb-Building—Drone-Cell and Other

BY ARTHUR C. MILLER

The why and the wherefore of the shape and sizes of the cells of honey-comb have long been the subjects of much discussion, and doubtless will continue so to be for some time to come.

If, however, we can get any additional light, it will be worth the effort of some further speculation, for the nearer we come to the reason bees build drone-comb at one time, and worker at another, the more it will enable us to direct the bees' labors as we wish.

Bees build two sorts of cells, worker and drone. Four sorts are generally given, namely, worker, drone, queen and "accommodation" or "transition" cells, but queen-cells are the result of isolation, and "accommodation" cells are the result of extraneous forces.

A bee strives to build a round cell, but as all the bees about her are each attempting the same thing the result is a hexagon. But why its size? The greater percent of comb in a hive is worker, and, hence, we may call it the normal size, due primarily to the size of the bee, and secondarily to the pressure to which the individual bees are subjected while at work.

Drone-comb is built after the first rush of comb-building by a swarm has spent itself; in a colony having a failing queen; in a queenless colony; during an excessive honey-flow; and during high temperature coupled with great humidity. Under each of these conditions we find what appears to be looser clustering than when worker-comb is being built. Under several of them we know there exists an uneasiness, a restlessness. Change the conditions to normal—*i. e.*, conditions of quiet—and we get worker-comb.

From these facts I have formed the theory that the size of the cell is due to the density of the cluster, said density when at a maximum resulting in a minimum-sized cell—the worker size—and *vice versa*. Incidentally I wish to call attention to the fact that cells vary all the way from 5 and a fraction to 3 and a fraction to the linear inch. Generally the extremes are produced by bees respectively exceptionally small or large. I have found in the same hive, even in the same frame, comb with cells 4 to the inch, and 4½ to the inch, and regular worker 5-to-the-inch cells in adjoining comb. While variations from what we consider normal are more common than supposed, the extreme variations above referred to are rather rare.

To the practial bee-keeper this may give a suggestion as to a way at least to minimize drone-comb construction.

Providence, R. I.

Swarming, Self-Hivers, Etc. —A Review

BY ADRIAN GETAZ

The bold assertions made by Mr. Davenport have brought back to my mind some experiments that I made years ago; some processes that I have used, but I do not use now, and yet are not without merit, and might eventually lead to valuable results if they were taken up again and perfected.

FINDING QUEENS.

One excellent method to find black or hybrid queens, or queens of any strain (both queen and bees) that are apt to run off, all over and out of the hive, is to provide a box the size of the hive, having instead of a cover a sheet of perforated zinc fastened about an inch below the edges. The box is inverted over the hive, and the bees are driven into it by one of the known processes. When most of the bees are in the box, the queen will be found on the perforated zinc trying to get in the box with the bees.

Another process consists in chloroforming or otherwise temporarily asphyxiating the bees. The best is to use saltpeter. A piece of cotton rag is wet and rolled with some saltpeter. When it is fully impregnated it is thoroughly dried, and is then ready to use.

A hole a little smaller than the hive, and a few inches deep, is dug in the ground (I think a shallow, tight box would do as well). The hive, without its bottom, is placed over, and all cracks and openings carefully closed except one to let the nozzle of the smoker reach in. The impregnated rag is put in the smoker and lighted, and the smoke blown into the hive. That takes only a few seconds, the rag burning very rapidly. Withdraw the smoker and close the hole. An intense buzzing, almost a cry of agony, will be heard. When it has ceased, wait just 4 minutes and take up the hive, giving air to the bees that are now motionless in the hole. A few raps on the hive will dislodge the few that have not fallen. In half an hour the bees will be awake and in as good health as ever, and can be returned to the hive. A piece of perforated zinc placed before the entrance keeps the queen out.

The bees thus treated will unite without trouble, if from different hives, or accept any queen given them. The process has the advantage of being practicable with box-hives as well as with frame hives.

A third process is to move the hive to a new stand; put another one in its place with one comb of brood taken from the other, to retain the field-bees. Three days later so few bees will be in the original hive that the queen will be easily found, and the hive can be returned to its old place.

PREVENTION OF SWARMING.

Soon after having begun to keep bees, I realized that if I were going to do any good with them in this locality, it was necessary to control or prevent swarming, or, at least, prevent increase without weakening the colony too much. I say this intentionally. It is impossible to prevent increase and destroy the swarming fever without losing some brood, whether by requeening or caging the queen, or shaking the bees and removing the brood, or otherwise.

But that ought to be done with the least loss possible. Not long ago somebody wrote that he could prevent swarming easily. The process involved the withdrawal of two combs of brood, and again two more a little later, and two more yet if necessary. In my locality such a treatment would weaken a colony entirely too much.

Another adds a second brood-story under the first, and puts the supers on top a little later. I have no doubt that in a very heavy flow something would be done in the supers, but here all that the colony thus treated could and would do would be to fill up the added brood-chamber under.

Remember here that I am speaking exclusively from the standpoint of one working for comb honey. In working for extracted the problem is much easier. Sufficient shade and ventilation, or protection against too cool or too warm weather, and enough already-built combs to satisfy all needs, is all that is wanted.

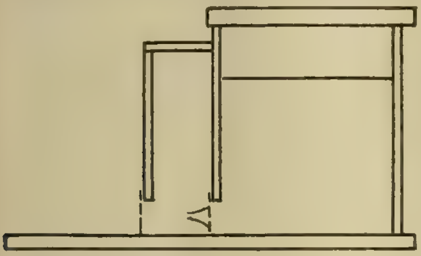
On a few hives I tried taking out one comb with the least brood possible, and putting in its place a comb of foundation; this to be put near the center of the brood-nest; the operation to be repeated as often as necessary to insure sufficient room for the queen to lay. A comb already built will not answer the purpose, because the bees would fill it with honey quicker than the queen could lay in it. Two combs of foundation at a time do not work either; the queen can not lay fast enough to fill them with eggs before the bees draw the cells enough to fill them with honey. The process succeeded so far as I tried it, but the trial was not extensive enough to warrant its success under all circumstances. The process does not weaken the colonies to any great extent; in fact, it may perhaps strengthen them. The combs taken out are those containing the least brood, sometimes none at all. The queen has almost a whole comb to fill at once, which means more brood than when she has only a few patches of empty cells here and there. In that last case she must lose considerable time in hunting up empty cells to lay in.

SELF-HIVERS.

Prevention of swarming and self-hivers seem to be a contradictory amalgamation. But what is needed is prevention of increase rather than the mere issuing of a swarm. If a swarm is hived on the old stand, and the parent hive is moved at some distance, both will lose the swarming fever in about 8 days. They can then be reunited without hunting up queens or queen-cells. This process is extensively used in Europe, where box-hives are yet very common, and in spite of all that has been written to the contrary, can give very good returns if managed properly.

My idea was to have a swarm-hiver on each hive; let the swarm hive itself, and 8 days later turn it back in the hive and remove the self-hiver. There is no question that some kind of apparatus that would do that work satisfactorily, and almost automatically, would be a great advantage. In the different processes now in use, considerable time is wasted in hunting up queens or queen-cells, or shaking or brushing bees and removing hives.

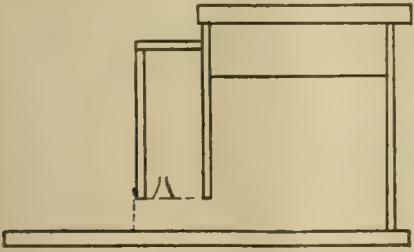
Two patterns gave me pretty good results, and very likely could be improved and made to work satisfactorily.



In the first the entrance to the hive is covered with perforated zinc, and a cone permitting the queens and drones to come out, but not to go back. In coming out the bees get in the self-hiver. When a swarm comes out the queen remains in the self-hiver, begins to lay there, and soon most of the bees stay there, leaving the old hive practically in the same condition that it would be if it had been moved away. (In the figure the dotted lines indicate perforated zinc.)

If a young queen emerges before the self-hiver is removed, she will usually destroy the remaining queen-cells, as there are too few bees to prevent her from doing it. If she swarms out she will destroy the old queen in the hiver and take her place.

That apparatus had two disadvantages. The drones congregated on the perforated zinc placed at the entrance of the hive. That can be remedied easily. Just remove the hiver, smoke them off, and replace the hives. The other is that the arrangement interferes seriously with the ventilation. An additional opening covered with wire-cloth, either under or behind the hive, might remedy the trouble, but I did not try it.



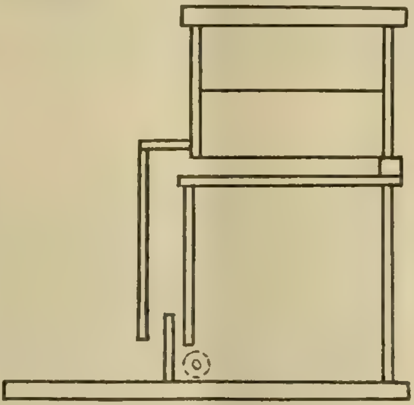
The second model was like a queen-trap with the upper apartment large enough to admit 3 combs across the hive. It has none of the defects of the other, but did not fulfil the object sought very well. The reason was that nearly all the incoming bees alighting on the bottom-board projection went into the hive instead of going up into the upper story of the hive, and kept it as clogged as before. I think some slight change in the construction could remedy the defect, but I did not try.

Turning the Bees into the Supers.

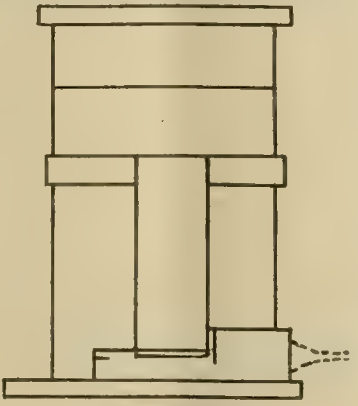
About that time the Langdon apparatus for the prevention of swarming was invented. The hives are placed in pairs. With each pair goes a kind of long box arranged so that the bees can come out of both hives all the time, but can, whenever it is desired, be made to go into only one. The idea was to throw into one hive all the bees long enough to cause the other colony to abandon all swarming notions when depleted of its bees. Then reverse the process so as to cure the swarming fever in the other colony.

I did not try it. I "calculated" that the bees of both colonies thrown in one would surely start the swarming fever there on account of being too crowded. Then when turned into the other colony they would begin preparations for swarming at once, since they have already the swarming fever. At least, I *thought* that would be the result, but, as a matter of fact, I can not tell positively.

At that time I already knew that a lot of bees left without unsealed brood for a few days will lose the swarming fever. In thinking the matter over, I conceived the idea of turning the bees out of the brood-nest into the supers instead of turning them into another brood-nest.



Side View.



Front View.

The apparatus consisted of a double board placed between the supers and the brood-chamber, so as to close the brood-chamber completely, but admit the bees to the supers; a slide closing the regular entrance to the brood-chamber altogether, except that a cone escape permitted the bees to come out, but prevented them from going back. A kind of box or chute conducted the outside bees from the alighting-board to the super entrance. When the apparatus is placed, the brood-chamber loses its bees rapidly. On the third or fourth days they begin to carry out the immature queens and the drone-brood. By that time the queen has destroyed the sealed queen-cells that might be present, the swarming fever has disappeared, and the apparatus can be removed. It was described in the American Bee Journal for Dec. 14, 1893, page 757.

The only feature that I did not like was that the outside bees, instead of working in the supers as I had hoped they would, spent their time in worrying themselves in frantic efforts to get back into the brood-chamber. Perhaps this could be avoided by separating the supers from the brood-chamber with a wire-cloth instead of a solid board, so the bees could communicate with each other.

At that time, in inspecting the colonies, I found 2, each with 2 supers completely filled, while none of the others had more than one. Examination showed that somehow or other they had lost their queens. That changed the direction of my mind entirely. I dropped self-hivers, Langdon apparatus and all, like so many hot potatoes, and began experimenting on caging and removing queens. Finally, I settled down on my present management.

Knoxville, Tenn.

Burying Bees for Winter

BY C. H. BENSON

Since I have been keeping bees the question of wintering had been the unsolved one until I came here 3 years ago. I had no cellar, and the best that I could do, the winter loss was always heavy.

Three miles from my place is a man who has kept bees for 20 years, and his father was a bee-keeper before him. He taught me a way to winter bees that is simple and satisfactory, for those who have no cellar. His way is simply to bury them as you would potatoes or apples. For 2 years I have buried my bees, and I am well pleased with the result, though I made some mistakes last fall that cost 5 or 6 colonies of bees. One of the mistakes was this:

I put 45 colonies in one trench, and as the ground was uneven, in order to make the bottom of the trench level, I got one end too deep. I do not think it makes any difference how many hives are put in one trench, if the ground is right for it, but it is easy to get them too deep, especially if the ground is clay, as I have here.

The way to do is to dig a trench 6 inches wider than the length of the hive. I dig deep enough so that without bottoms the hives set on a rack made of 6-inch fence boards, or 2x8 scantling, will be about one-fourth of their depth above the top of the ground. Then I set the hives in close together, and cover them with straw to the depth of 1½ or 2 feet. Then throw on all the dirt from the trench, and dig a good ditch along each side, throwing the dirt over the bees. This ditch must have an outlet so that all the water will be carried off. This will generally give dirt enough; but if it does not cover all the straw 4 or 5 inches deep, and make a good peak on top, put on until it does.

The first year I tried only 19 colonies this way, and they all came out in good shape. Last winter I put in 45, and all wintered nicely except those in the too-deep end of the trench. Some colonies that had old queens came out queenless last spring, but the bees were there all right.

The man of whom I learned this told me that in 20 years he had not lost a colony of bees that had plenty of stores in the fall. It was hard for me to believe this after all I had read about ventilation, but it is a good way to winter bees, and I doubt whether I shall ever go to the expense of making a cellar.

Bellevue, Mich.

The Breeding of Good Queens

BY GRANT STANLEY

The American Bee Journal has given its readers some very timely as well as valuable suggestions in "Editorial Notes and Comments," under date of Aug. 23, on the subject of the "Honey-Producer Improving His Stock." In fact, it seems such a valuable subject that more light should be thrown on it, and, if possible, show the absolute necessity of improvement with our bees in the line of breeding, the same as is being done with all other stock.

It has been said, "Improvement is the order of the age," and this certainly applies well to bee-keeping, as it is true that if the best results are to be obtained from our bees—such as storing surplus, good tempers, excellent winterers, and the like—we must look into the matter of improvement, and not allow them to go on in an indiscriminate manner as has been done entirely too long already. This Journal says:

> "Two courses are advised. One is to breed always from the best; the other is to buy from time to time a queen of pure blood from which to breed."

In an apiary of 20 or 25 colonies and upwards can be found the very best queens from which to breed. The owner of such an apiary is a long step ahead of the bee-keeper who purchases his queens, for the reason that he has the knowledge in advance as to what each colony has done during the season. He knows which colonies have stored the largest amount of surplus. He also knows which colonies do little at swarming; or which have good tempers; or which build no brace or burr combs; or which do not run or sprawl all over the tops of the hives when the covers are off; or which are good winterers; or which do not everlastingly stick everything full of propolis, or any other objectionable feature. In fact, as he looks over the apiary at the close of the season, the behavior of each colony comes to mind in a moment.

Purchasing queens may be well for the bee-keeper with but a few colonies, where possibly no attention has been paid to improvement for a number of years; but I believe a little caution is necessary in purchasing queens to introduce in any apiary of a number of colonies, or quite likely the head may be pinched off the queen that "lays the golden egg." It is encouraging, however, to note that much more attention is being paid to this branch of apiculture at present than formerly, and much more can be accomplished in this direction. I believe Mr. McEvoy, one of the foul brood inspectors of Ontario, Canada, said at the last National Convention that 90 percent of all queens should be killed. This is certainly a broad statement, but I am inclined to believe there is a great deal in it. The truth of it can be seen in most apiaries. There is one thing about our queen-rearing system that is certainly all wrong, and that is, too little attention is paid to the drone. As long as we do not see that our queens meet desirable or selected drones, we will not have any better queens than at present. If we should rear ever such good queens, and they meet with undesirable drones, our labor is lost. The drone is of fully as much importance as the queen, and in many instances more so, as we shall presently show. However, this is very noticeable in the young bees of an Italian queen that has met with a black drone.

The question of the male is fully as important in queen-breeding as in other stock. The stock-breeders of the country would certainly laugh at the queen-breeder, or, rather, queen-rearer, who will exercise such great care in the selection of his queens, and then allow them to mate with drones indiscriminately, or, more properly speaking, by chance. The drones should in no case be reared in the same colony employed for rearing the queens, not only on account of too close inbreeding, but no single colony can be found possessing every desirable feature. So we see that the features lacking in the colony in which the queens are reared can be had by wise selection of colonies from which to rear the drones.

The rearing of drones in all undesirable colonies should be reduced to a minimum, while those of the selected colonies should predominate in such numbers as to fly freely.

Now, while the methods employed in modern queen-rearing are possibly well enough for the queen-breeder, they require too close attention, and are too complicated for the average bee-keeper with a large number of colonies, and possibly several out-apiaries. He has no time to tinker with baby nuclei, or the like. Some method should be employed in the rearing of queens so that frames of the same size and style as those used in the apiary can be brought into use—in fact, frames should be interchangeable anywhere in the apiary. By the use of a standard frame the nucleus would be much more self-sustaining, provided there was honey coming in, and this would not require such close attention on the part of the bee-keeper, as we know that when the queens must be reared is the time also when the bees are doing good work at storing surplus.

Another thing: As these small colonies build mostly worker-comb, the frames would be valuable in an apiary run for extracted honey. This is one of the most important subjects connected with our business, and we certainly should have all the light on it that it is possible to get.

Nisbet, Pa.

Southern
Beedom

Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

The National's Mexican Supper

In the October issue of The Apiarist, the editor has the following to say about the Mexican supper, to be given the National at San Antonio:

> "........and the following is the menu: Tamales, Chile Concarne, Mendo Enchilados, Polo Canaros, Corbreto Langua Lampriodo, Frejoles Tritos, Con Tartillas. When you have eaten the above, and are strong enough to digest it, you will be able to tell what you have eaten, and can be able to speak the Mexican language, and can hollow, 'Hoope la Mona Bravo.'"

Starts Cells With Queenless Bees—Other Subjects

On page 816, our old time friend (once a Texas bee-keeper), W. C. Gathright, of California, wished to know if I used queenless bees in getting cells built from drone-comb, as I gave on page 701.

I do, as I find from practise that queenless bees are the only ones that can always be depended upon to start cells. After they are well started they can be transferred to an upper story of any colony, with a queen-excluder below, placing a frame of brood on either side of the frame containing the cells, so as to attract plenty of nurse-bees to the upper story, and they will be finished up in grand style.

I am glad for Mr. Gathright's suggestions in regard to getting cells started and finished up by the same bees, by removing the upper story, bees and all, to a new stand, and after cells are started, setting the upper story back. I shall give it a trial another year. It seems, however, I had read practically the same plan given by Mr. G., of getting the same bees to start and finish up the cells, but I can't say where, or what bee-paper it was in.

THE FALL HONEY-FLOW A FAILURE.

Our fall honey-flow, that we usually have from broomweed in this locality, is a complete failure, owing to a 4-weeks' drouth, with high north winds. This makes us feel pretty blue after such a hard year for bees, and the prospects so bright for a fall crop a short while back. And I wish to say to all our Texas readers where this drouth prevails (I am pleased to say it is not general over the State), to look well to the amount of stores your bees have, or they will starve before spring; for with the failure of broomweed to yield a winter's supply for the bees, our last hope goes for 1906 for honey.

LITTLE SURPLUS FROM SUMAC.

The honey-flow from the sumac was also light, and of short duration. Strong colonies did not get over 30 pounds of surplus to the colony. Horsemint and wild marigold failed to yield in this locality. These are two of the best honey-plants in Texas, but are not reliable for honey in this locality.

TIME OF YIELDING OF SOME TEXAS HONEY-PLANTS.

We find from living here more than 16 years, and watching closely the various honey-plants of this locality, that the mesquite will yield a surplus about every other year. The horsemint and wild marigold will yield about once in 5 years. Then we have a little blue flower (I know no name for) that grows on the white, chalky hills of this part of Texas, and yields a surplus about once in 3 years. Our surest and best honey-plant for this locality is the sumac. It blooms in August, and never fails to yield a surplus when we have any rain to speak of. Then comes broomweed in September, October, and November, which yields a surplus about every other year. *All failed* to yield the present year but sumac, and it was light, as stated.

It is said by some of our Texas apiarists that buffalo clover—"blue bonnet"—(our Texas State flower) was a honey-yielder, but after having watched it closely for years I have never been able to discover that bees got anything from it but pollen. L. B. SMITH.

Rescue, Tex.

Yes, Mr. Smith, the honey crop in general over the entire State has been short; however, fall rains have prevailed in most parts of Texas, and broomweed—*Gutherezia texana*—has been giving the bees plenty to do this fall. The broomweed is still in bloom, the pastures being one sheet of golden yellow. Cold nights and cool, windy days have interfered with the bees somewhat, but there are yet many warm days when the bees are very busy. Some of my bees have stored a good deal of surplus from this plant, for this time of the year—about an average of 20 pounds to the colony. The honey is a golden yellow, and has a somewhat strong taste—a little bitter, and hence not a suitable honey for market. We are using it for home table use, however, for which it is yet passable for the average person.

Horsemint, *Monarda*, of several species in Texas, yields well in some seasons—those that have been preceded by plenty of fall rains the previous year, so the horsemint could come up. From my own observations, and what I could learn of other reliable sources, it is necessary for horsemint to come up the fall before if it should yield honey the following May. If it comes up in the spring of the year it does not yield; and I have watched such in pastures where it was 3 feet high, and so thick I could hardly walk through, yet not a bee was at work on it during the entire time of bloom.

The wild marigold, *Gailardia pulchella*, yields a dark, golden honey of heavy body. It has a nice taste and aroma of its own; and of the sumacs of the genus *Rhus*, we have several species yielding a light-colored honey in large quantities in the fall. You did not mention cotton, which I thought was a useful honey-yielder in your section—north central Texas.

The small blue flower growing on the chalky hills, I suppose is *Verbena zhuta*, blue vervain. Bees are found very busy on it in some seasons.

I would like to call attention to the importance of a bee-keeper knowing the honey-yielding plants that surround the locality where his bees are kept. To be able to know when they bloom, and in what kind of season, will help much toward his success. It will also help much toward preparing for the honey-flows.

Getting Rid of Laying Workers

In a recent communication from Grant Anderson, he says this, among other things:

"I see that many do not know how to get rid of laying workers. I have an easy way that seldom fails. Just hunt up an old queen that has done her duty for some time. Take her quietly and lift out a comb containing the brood of the laying workers, bees and all. (Use no smoke.) Let the old queen crawl onto the brood, set the comb back, and your job is done. After a few days you can introduce a young queen, removing the old one at the same time.

"A young queen becomes excited when put in a strange colony, thus causing her own destruction. An old queen keeps cool and does not arouse the suspicions of the bees."

◆

The Apiarist, of Waco, Tex., is now edited and published by John Bradley, its former publisher, Dr. C. S. Phillips, having discontinued editing the paper, on account of engaging in other business which takes all of his time. We hope that Mr. Bradley will be fully able to carry out his intentions of making The Apiarist a creditable paper for Southern bee-keepers.

Our
Bee-Keeping
Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Bee-Keeping for Husband and Wife

A writer in Deutsche Bienenzucht says that bee-keeping in which both husband and wife are interested is well calculated to strengthen the love of home and hearth.

◆

Cellars for Wintering Bees

What kind of a cellar is best to keep bees in? I have 2—one is cemented on all sides, ceiling and floor; the other is under the living room, but has an earth floor, and is quite rough in general. The north cellar, which is the better one, gets down to the freezing point in very cold weather. I have never kept bees in it, but now I have so many I would like to put them in there for the sake of more room. MRS. J. C. PLUMB.

Milton, Wis., Oct. 16.

The best cellar in which to keep bees is one that is dark, with constantly pure air, and a temperature varying as little as possible, at about 45 degrees. That seems very simple, and is easily said, but not so easily secured, and all are not agreed as to the best means to be taken.

The general opinion seems to be that a cement floor is best, especially if the cellar-bottom be of clay. Yet some, who have tried both kinds, prefer the earth floor. The main part of our house is 33x31 feet, with a cellar under the whole of it, divided into 3 rooms. In one of these rooms was put a cement floor, purposely for the bees. But they didn't winter as well as they did with the earth floor; and the earth floor was one of the clayeiest kind of clay. Yet it will not do to be too positive that the cement floor was in any way at fault; some other factor may have played a part.

Having the cellar dark is easy; constantly pure air is another matter. Some have no provision for ventilation; some make no provision for air coming in, but provide for the outgo of foul air; and some provide for an intake of fresh air as well as an outlet of foul air. Much, no doubt, depends upon conditions. With plenty of openings, by way of cracks in the cellar wall, there may be no need for any other intake of fresh air; and perhaps the same may be said with a loose, sandy cellar floor. Otherwise some kind of provision should be made for the introduction of fresh air; perhaps a pipe from the upper part of the wall opening at the cellar bottom, turns in the pipe preventing the entrance of light.

In almost any cellar it will be better to have some kind of a tube, whether it be a square board one or a stovepipe, to carry out the foul air. A stovepipe running from near the bottom and entering a chimney is good. If no chimney goes down into the cellar a pipe may run up through the floor, and enter a pipe or chimney above.

The temperature is secured by having the walls well banked outside, or by making a double wall at the upper part inside. If still too cold, a low fire may be kept in a stove in the cellar.

Coming to the gist of your question, you will no doubt be safe in putting part of your bees in what you think is the poorer cellar. Most likely there is communication between the 2 cellars, and that will equalize the temperature. Even if the second cellar is not so good there will probably be a gain sufficient to balance the loss in the better wintering in the other cellar, as compared with too much crowding in that. For plenty of pure air can not be had so well in a crowded cellar; and plenty of pure air is a matter of first importance for bee or man—to say nothing about woman.

Burned While Smoking Out Bees

The following appears in the Chicago Record-Herald of Sept. 20:

> LITCHFIELD, ILL.—Mrs. J. B. Hutchinson, aged 70, was fatally burned yesterday while attempting to smoke out a swarm of bees.

Foreign Missions and Bee-Keeping

At the meeting of the Presbyterian Women's Board of Foreign Missions, in Chicago, Dr. George A. Ford, a missionary of Sidon, Syria, in telling of what they were accomplishing in different industries of the mission, gave the following item:

> "Our apiary of about 60 colonies, whose hives are of our own manufacture, yielded, last year, about a ton of superior honey, much of it from the orange-blossom."

With what interest would one look upon an apiary located on that sacred ground trod by the feet of our Savior 1900 years ago.

Honey for Influenza, Massage, and Soap—Propolis Corn-Plaster

Here are 4 items taken from the British Bee Journal:

INFLUENZA CURE.—In 1 teacupful of *hot* honey put the juice of 1 lemon, and take as a dose 2 teaspoonfuls occasionally, or as often as seems necessary, and as hot as can be endured comfortably.

HONEY MASSAGE.—Take the yolk of 2 eggs, 2 ounces of ground bitter almonds, 2 ounces of almond oil, add 4 ounces of extracted honey, and make a paste, which rub on hands, arms or face.

PROPOLIS CORN-PLASTER. — Make small plasters of propolis slightly warmed, and apply to corns, and you will feel relieved from the pain of this worrying trouble.

HONEY-SOAP.—Take 1 pound of common soap and add rain-water. Place the mixture in a pan and boil till the soap is dissolved. Then add an ounce or two of honey, and continue stirring until the water is evaporated. Such soap is excellent for the complexion.

Honey for the Toilet

Apart from the medicinal uses to which honey is and may be applied, are those connected with the toilet. A small jar containing honey should be kept on every washstand and in every nursery. Honey proves a panacea for most of the ills that flesh, or rather skin, is heir to, in the shape of cracked lips, roughness of the skin, blotchy patches around the mouth, which are most disfiguring to even the most beautiful; chilblains or chapped hands, sore and cracked heels, wind-caught ears, etc., which can all be prevented by this simple remedy.

The application is so easy, and no one can object to it, as they do to so many other remedies. After washing any part of the body suffering from any of the above unpleasantness, apply to the part affected, while still wet, a very little honey with the finger, and then smear it over. To those who suffer habitually in winter from any of these distressing complaints, the continued use of honey will prevent them from appearing. Begin to use as soon as the weather gets cold, or as soon as the wind begins to nip.—Irish Bee Journal.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Keeping Mum on Apiarian Discoveries

A contrast between say two things always adds strength and beauty to the deserving side. This may be illustrated by contrasting a log "gum" with a frame hive; the old method of obtaining strained honey with that obtained by the extractor; and such men as Mr. Davenport with such as Langstroth, Quinby, and all those men who discover no idea too valuable to impart to others.

Perhaps Mr. Davenport's opinion differs from mine as does one locality from another. I am led to wonder, however, why he sees fit to take a bee-paper (which, I suppose, he does). Is it not because he deems it beneficial and apt to help him increase his product? He objects to giving away his secret, however, fearing that some may derive this benefit.

It is a blessing for bee-keepers and editors of bee-papers that all improvements and discoveries have not been so jealously guarded. Mr. D. says his discovery, if known, would increase the crop of honey too much to justify him in making it known. I wonder what he thinks we take bee-papers for. And I also wonder why he mentioned the subject at all. H. A. SMITH.

Palermo, Ont.

Queenless Colonies in the Fall

The swarming season is liable to leave some colonies queenless, and as a queenless colony will not cluster well for winter, it is very important that every colony be seen to have a laying queen before it goes into winter quarters. The surest indication of the presence of a queen in the brood-chamber is the finding of brood or eggs in the combs. The laying of the queen is discontinued as soon as there is no honey being gathered, and in 21 days the last bit of brood hatches out. So the inspection for queen condition should not be delayed. If after the honey-flow no brood is found, but plenty of bees and other conditions apparently normal, it is quite safe to conclude the queen is present. Another hive with a younger queen may have some brood, and if there is any doubt about the broodless hive, give them a comb containing eggs or a very small unsealed brood, and look again in a couple of days to see if they start queen-cells. If they do not start cells their queen is probably all right, but if cells are started they are queenless and of practically no value, because if they have been queenless any length of time the bees are all old and would nearly all die in winter, even if they were given a queen or united with another colony.

During the season the queens should be looked after regularly, then there will not be much of this to do in the fall. Queens are sometimes lost in hiving swarms, so it is a good plan to look into a newly-hived swarm a few days or a week after hiving to see if the queen is laying. This is especially the case with second swarms, whose queens are virgin when the swarming takes place, and must go through the danger period of mating afterward. It takes about 3 days for them to get to laying, and another 3 days to get enough eggs laid to be noticeable in the combs without such careful hunting. All parent colonies, as we call those that have cast a swarm, should be examined without fail 3 or 4 weeks after the date of the first swarm. They, in every case, have young queens, which sometimes get lost on their mating flight.

If the number of colonies is to be reduced in the fall, by all means save the parent colonies which have young queens, and probably plenty of honey crowded into the brood-chamber during the period when no queen was laying in the hive. The so-called "young" swarm came off with the old queen, and was for 3 weeks working hard with no young bees hatching in the hive, and is in reality now the old swarm so far as age of bees goes, and, having an old queen, is the poorer of the two for winter.—M. P., in Mail and Empire.

Bee-Moths Destroying Combs

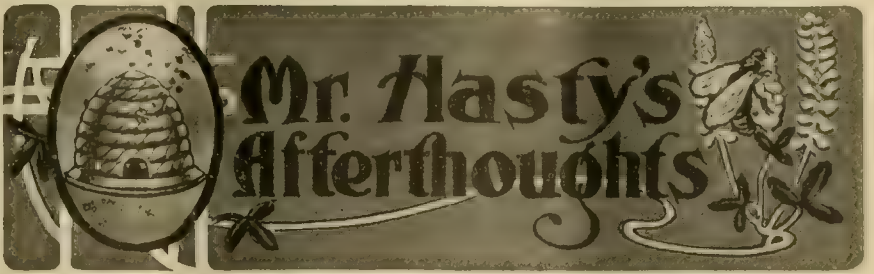
My bees are being destroyed by a worm about one inch long that is eating away the brood-combs, and I am told that later they will attack the surplus honey. These worms are known locally as "web-worms," and are the larvæ of a buff-colored moth about ½ or ¾ of an inch long. These same worms have destroyed nearly all of the bees in this locality. How can I destroy them and preserve my bees?

ANS.—The worms referred to are the larvæ of the bee-moth, which is common to almost every locality where bees are kept. It is not the worms themselves which injure the bees, but their presence in the hive indicates that the colony has become weakened, and as the bees have diminished, and they have been unable to cover the combs the moths have laid eggs in the vacant combs, which hatch into the worms you describe, and eat up the combs, leaving only a mass of webs and debris behind. It is not possible for the moth to do any damage to a thrifty colony. As long as the combs are covered by the bees there is no chance for the moth. You see, the moth is really no menace to the bees, but it is a very destructive agent as far as honey-combs are concerned.

The remedy in your case is to remove all the combs from the hives that the bees can not care for, so that you may preserve them by an occasional smoking with sulphur; then try by every means to build up your colonies, and as the bees increase in numbers return to them their combs, and you will not have any more reason to complain of the presence of the bee-moth.

The reason that so many worms have been seen in your locality, is that some unfavorable condition has tended to weaken and gradually destroy the bees, and the moths, finding food for their young in the vacant combs, have increased greatly.—C. O. J., in Family Herald and Weekly Star.

The false notion is so prevalent that moths destroy bees as well as combs, that C. O. J.'s answer seems worth copying, even though it is so well known by bee-keepers of experience.



Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

PUTTING EGGS IN QUEEN-CELLS.

And, presto, another brother claims success in putting in eggs instead of larvæ in outfitting queen-cells—Grant Anderson, of Sabinal, Tex. Page 754.

SHIPPING SECTION HONEY IN A LARD-CAN.

Adrian Getaz well illustrates how there are "many men of many minds" when he shows us how to pack 3 dozen sections for market in a lard-can. Think I'll wait until I have inspected one of these cans after going 10 miles to market in a lumber-wagon over a freshly dried clay road. Page 757.

HEAVY EXTRACTING COMBS.

W. D. Soper turned quite a trick when he got an 11-frame extracting super to average 8½ pounds of honey to each comb. Page 769.

TWO OCEANS ON ONE PAGE.

Two oceans on the front page of No. 37. Lima beans like the ocean—and the real ocean like a field of Lima beans.

CHANGED VITAL CONDITIONS IN 1906.

I am interested in hearing an intelligent and professional man discourse on the changed vital conditions of this year of grace, 1906. Many forms of life almost lacking. It's a matter which not only bee-keepers, but the whole world, should be interested in. *Why* should wasps in California, and wasps here in Ohio, and wasps elsewhere be scarce this year? I have been in the habit of having great multitudes of them of many species. (Hives with gable roofs in which they can breed, and other special facilities for them.) This year there have been comparatively few, and of some species almost none. The writer that moves me to say this, Dr. Phil. Max Boelte, seems rather inclined to let this go as the result of cold, late spring and heavy rains. I doubt it. Certainly that theory won't work on the flies. Better we have a theory that will run for all the insects that play scarce. Flies began late and moderate (weather might account for that nicely), grew more and more plenty until quite troublesome, though not as bad as usual, and then in the midst of a warm summer, when precedent required them to get thicker and thicker till frost, they began to decrease. Recently the weather has been unseasonably hot most of the time. But the cows do not come from the pasture looking like 4-legged swarms of bees as aforetime. So few flies around them that they look almost comfortable. Never saw the like. I incline to explain the scarcity of insects, and the destruction of our poplar trees, and the nearly total destruction of our "pusley" weeds one recent year, and many similar plant failures, to quite similar causes—new developments of microbic life. Either a new microbe or a new development of an old one, making it more deadly, will answer the turn.

Pansies used to flourish in my apiary. Seeds got scattered around and came up in the fall. For years people came to me in spring from all the region round for baskets of pansy plants, which I delighted in giving away. (I wished in spring to clear most of the ground so that I could hoe it.) But a few years ago the pansy suddenly lost its vim and health. I took more pains than usual to help them. No use. Rapidly less and less until last spring not a single pansy survived.

"What will you do when the black man comes?" Is there, mayhap, awaiting a microbe to serve the human species in the same way? If the sun and its planets, in their sweep towards the north side of the universe, pick up floating microbes frozen but not dead—if we run into one adapted to make dead pusley out of we'uns—then what?

MICE NOT FOND OF HONEY.

Readers of this department may remember that not long since there was a dispute between myself on one side and Mr. Doolittle and Dr. Miller on the other side, as to whether the common mouse ate honey because he liked it (as they contended), or whether he only ate it in extremes of hunger or thirst (as I contended). I feel like renewing the fight. Think I am prepared to take, not perhaps the whole match, but the first round, at least. I now have several captive mice. They are not tame, but are coming on that way. Perhaps they are better for this experimentation than entirely tame mice would be, at too much domestication changes appetites. I have developed the fact that they are specially fond of dry crust of wheat-bread. Last night I gave two of them a large, long crust, one end of which was spread with honey. They ate a huge meal of it, for such small beasts, but *avoided the end where the honey was.* In the zeal of eating their teeth got a little across the line in one place, but that was all. Well, this may not mean quite as much as it seems to at first. May signify not much more than that they prefer their crust crisp and dry rather than to have it dampened with *anything*. (To be continued.)

ARE BUNCHED SWARMS SELF-DIVIDING

To hive 24 pounds of mixed bees in a 4 story hive hoping to find 6 pounds and a queen in each story next morn—I hope some of the brethren will try it as Grant Stanley wishes; but I should hardly have faith enough to spend the time. Manifestly it can only succeed in yards where mixed bees do not ball queens. It's expecting altogether too much to expect the bees to divide and locate themselves when the queens are all on the bottom-board encased in hostile balls. Page 784.

WINTER WATERING OF BEES.

So the Hamburg doctor thinks bees should be watered in the hive in winter. Thought so myself—when I was an A B C child. At present, I think that all winter watering inside would be a damage, and also that the thickest possible honey consumed in winter furnishes water enough and to spare. Page 785.

SIGNS OF ROBBING BEES.

I surmise quite a few of us will disagree with Dr. Miller, if he means to say that crawling up the front of the hive to take flight is *not at all* a sign that robbing is going on. Some other things will make bees do so, doubtless; and very likely robbers, so long as they are not getting very much, would take flight without climbing; but still it seems to me that beginners should be told to investigate promptly all colonies where bees climb before they fly—robbing nine times out of ten. Normally bees come in with loads and go out without loads; when robbing the reverse is true. When not loaded they start from a low level and fly up, but haven't much left over when they do so. To start from a level and fly up with more than half their weight of honey aboard (condition of a man with 80 pounds of silver-plate in a bag on his back), that they are a little disinclined to try. In such circumstances they want first to get up a few inches so that if they lose level in the first foot or two of flight they will not strike the ground. If alighting-boards were narrow, and entrances a foot or two from the ground, there would not be so much need of care. Page 787.

THE NEVER-FAIL QUEEN-INTRODUCER.

Man who tells us he never fails introducing queens is the same man as he on whose statements throughout we are not to rely fully—so Mr. Dadant thinks. Now, maybe that's so. Page 799.

TENTS FOR EXTRACTING HONEY.

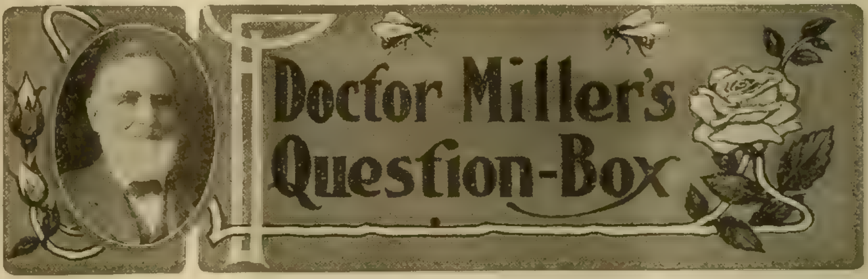
Hutchinson, who lives north, thinks a tent to extract in too awfully hot for endurance, except when you can't do any other way. Scholl, or L. B. Smith for him, as far south as Texas, is surprised, and thinks a good tent an ideal arrangement. What can be the cause of this disagreement? My inclination was to side in with Hutchinson. A second look, however, shows that all the lower part of the approved tent is mosquito-netting, also it is a very big one and 9 feet high. Such a tent as that, if we may also suppose a breezy location, may indeed be quite as comfortable as a shanty, if not more so. *Might* spread a fly of muslin above the top, not touching it. Tents *and* tents—ranging all the way from Purgatory to Paradise. Page 800.

DIFFERENCE IN BACHELORS.

So bachelors in Canada enjoy having a gang of men extract honey in their kitchens. I'm going to disown those bachelors, Mr. Pettit. Page 801.

GROWING TEXAS HORSEMINT.

If Texas horsemint will stand zero weather, it looks as though it might be started in most of the States. Must be up and established in the fall, it seems. I think the diligent raising of a plant in the garden for a few years *from its own seed* will gradually fit to take care of itself outside, even if at first it refused to grow except where cultivated. But we should feel more enthusiasm to introduce *Monarda punctata* were it not that its honey is reputed a little strong in flavor. Page 803.



Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Packing Comb Honey for Shipment

What is the proper way to pack a large bulk of honey to ship it a long way on train?
MICHIGAN.

ANSWER.—It makes a difference as to how large a bulk you mean. If it is any thing like a car-load of comb honey, and I suppose comb honey is meant, the cases may be packed solid in the car, the ends of the sections pointing toward the front and rear of the car, so that they will withstand the jar of bumping. Any room at the side must be packed full of straw or otherwise filled up, so there shall be no play sidewise. The cases will be placed solid against each end of the car, and at the middle they must be in some way securely fastened. One way is to have boards flatwise across. fastened to the sides of the car at each end of the boards, and at the middle of the boards braced by studding standing perpendicularly, and fastened to the roof and the floor. The idea of the whole, as you will see, is to have the cases all fastened immovably in the car. No straw or other packing is needed on the bottom of the car. For smaller amounts, the ordinary crates holding several cases may be used, having on the top a large arrow or other device, and the legend, "Please pack in car so this arrow shall point toward the engine." Of course the arrow must be put on so that the shock of bumping shall come on the sections endwise and not sidewise.

* * *

Italianizing a Neighborhood's Bees—Eggs That Fail to Hatch—Free Discussion

I believe, with Doolittle, that rules with bees "don't count." They are in the nature of freaks from beginning to end, and no one can tell what they will do next. I some times think there are more devils in black bees than in the swine that ran down into Genesaret. They seem always aching for a fight. I once made an introducing-cage of a whole frame of comb (say half filled with honey), covered with wire-cloth on both sides a bee-space from the comb. I cut a hole in the comb about as large as my thumb end for bees to pass from one face of the comb to the other. I put the queen and her attendants in this cage and kept her there for about a week, and then liberated her by a door provided in the screen for that purpose. The queen did all right, and of course some of the other bees entered the cage at the opened door. To save the honey in the comb and the cage for such use again, I tried to chase the bees out of the cage, and it was one of the "biggest circuses" I ever was at. Some of them were bound not to go through that hole from one side of the comb to the other, and one in particular whirled around over the hole like a whirligig—I suppose a thousand revolutions a minute. I eventually killed it to stop the play. I called this to mind on reading "Maine's" description of the colony that refused to have a queen in any case (page 803). I have another freakish case at present. I received an Italian queen (untested) after some 2000 miles travel in the mails of your country, and about every second week she has a batch of eggs in the same frame, that never hatch, but disappear in a few days.

1. What was wrong?
2. Will she be of any use in the spring?
3. To save the colony, must I replace her?
4. As you and the editor of Gleanings have been discussing hybrids, I think I see why you can only rear hybrids, by Miss Wilson's reply to Mrs. Black's question No. 3, page 802. Of course it is desirable to rear only a few drones when our own bees are no longer hybrids, but I think some of the queen-dealers smile at our foolishness. They know that if we spent the money we now send to them for queens, in rearing large numbers of drones early and late, we should soon Italianize our whole neighborhood to such an extent as to be able to rear our own queens, and be independent of their services. Suppose each of us with large apiaries, devoted say 10 of our best colonies to rearing drones for 3 years; say put 3 frames of drone-comb or drone-foundation in each brood-nest, I think we could soon swamp the hybrids and the queen-rearers who are not breeders, but are only fattening upon our ignorance and credulity. These last are only thoughts that came to a novice since I started to write. Let some one who is not a novice, and has some conscience, correct my foolish thoughts. Suppose Mr. Hasty takes a crack at the idea, and modify or wreck it by showing its absurdity.
5. Some of the editors of bee-papers may not allow such free discussion of the matter as may be desirable; witness how they shut

out some of the most valuable part of Dr. Phillips' highly valuable article on "Experimental Apiculture," and we got only the pith of the thing on page 179 of the Canadian Bee Journal for September, after being recently informed by a fine man, and a prominent bee-keeper, that the paper was "no good." He should now be able to change his opinion.

CANADA.

ANSWERS.—1. I am not entirely certain from your description whether none of the queen's eggs ever hatch, or whether "she has a batch of eggs in the same frame, that never hatch," while eggs in other frames do hatch. I suppose, however, that none of them ever hatch, for such a case does occur in rare instances, and I never heard of a case of the other kind. In any case, I don't know what's wrong, only that sometimes there is a case in which there seems some imperfection about the eggs, so that they never hatch.

2. On the supposition that not an egg hatches that she now lays, you may be sure she will be of no value next spring.

3. It is probably not worth while to replace her, for practically the colony has been queenless all the while that queen has been present, and the probability is that that has been a good while, since you speak of "about every second week," as if there had been a number of "second weeks." In that case you will see that the bees must all be old, unfit to go into winter quarters, and there would not be much chance to get a strong force of younger bees by introducing a normal queen after Oct. 1.

4. You are hardly correct in your surmise that hybrids prevail here because Italian drones have not been encouraged. A stronger reason is that hybrids have not only not been discouraged, but they have had actual encouragement, both queens and drones. Without regard to color, I have bred queens from the colony which showed the best work in supers, and drones from colonies that have distinguished themselves as good storers. These best workers have almost invariably been of crossed blood. By constantly breeding both queens and drones from the best storers, I have materially increased the average yield per colony. The unfortunate feature in the case is that by getting this crossed blood I have at the same time got very cross blood; so much so that I am now getting in pure Italian blood so as to compare. This Italian blood is supposed to be of an extra-good strain, and if it does not fall too far behind my hybrid blood in storing qualities, it will be likely to replace entirely the hybrid blood, so that my association with my little subjects may be of a less warlike character. So you see that while you are quite right in thinking that the encouragement of drones of the right kind is an important matter, you are wrong in thinking that I have not been working with that in view. If I had worked as carefully for pure blood as I have for large yields of honey, I would surely have more yellow bees. I am hoping that I can get back to the gentler yellow bees without too much loss in crops.

5. Don't be too hard on bee-papers. It seems to me they allow very free discussion, and I have no doubt they would be willing to leave it entirely to their readers what should be published and what left out, *if* said readers would be unanimously agreed. But some things you would want in I might want out; and some things I would want in you might want out; so it isn't likely we would be any better satisfied than as things now are. Although it does not seem a good thing to have long papers at a convention, I agree with you that Dr. Phillips gave an exceedingly valuable paper; but it might be that if you were editor you might have on hand matter that you felt must be published, and you might feel that space could not be afforded for the whole of even so valuable paper as the one in question. I feel like saying about the editors as the placard said about the man playing the piano in the saloon out in the wild West. Over the piano was suspended a placard saying, "Don't shoot the man at the piano; he's doing his best."

Queen-Introducing Experience

Is this an exception? I sent for an untested queen. Queen received all right, except the candy was all gone. I did not have any more candy to put in the hole, so I introduced the queen without it, but leaving the pasteboard over the hole. In about 3 days I removed the cage. The pasteboard was all gnawed away and queen liberated. I did not look for queen but closed the hive immediately. In a week or so I looked for the queen, but she was missing, and 5 or 6 queen-cells were present. The candy was crumbled and scattered over the cage. What was the matter? Was the queen introduced too quickly to the bees, that is, liberated too soon by them?

MINNESOTA.

ANSWER.—The case is an exceptional one, and it is hard to be positive in answering either of your questions. The trouble seems to have been with the candy, either as to quantity or quality—apparently as to quantity, there not being enough to last until the introduction of the queen. Whether the queen was liberated too soon or not can not be told. If she was not liberated till the 3 days were about up, then it ought to have been all right; but if the bees gnawed away the paper within a few hours, then it was all wrong. Naturally one would think the bees would make rather slow work gnawing the pasteboard when there was no candy present, for sometimes, even with candy present, they are too slow about it.

* * *

Chaff-Packed Bees in Winter

1. When packing bees with chaff for winter, do you leave the entrance open?

2. What kind of chaff is best to pack them in?

IOWA.

ANSWER.—Yes, the entrance is left open, and provision is made for keeping the packing from clogging the entrance by a sort of little portico or tube. Oat-chaff and wheat-chaff are good. So are dry leaves. Planer-shavings are much used, being readily obtained in most places.

* * *

Supers Above or Under the Brood-Chamber—Other Questions

1. I am fond of experimenting with bees, and have tried several experiments the past season. I have several colonies of mismated bees which prove very good workers. I transferred them into 10-frame dovetail hives, using 2 supers. I have placed one super on the bottom, and on top a queen-excluder next the brood-chamber, and above same again one super. The idea of this is to keep the queen in the brood-chamber, and should they desire to swarm, it would be impossible for the queen to leave the hive.

The reason I use a super below the brood-chamber is, the bees, when returning from the field, carrying a heavy load of honey, may have an easy and quick place to deposit their load, without making such bees pass first through the brood-chamber into the super above, giving them much annoyance. By the old method, it would seem as if mankind should carry their winter stores into the attic or garret, instead of depositing the same in the cellar. My experience with this hive is that I have had 2 supers filled below the brood-chamber before I had one filled above the brood-chamber. Next season I shall try to keep all my supers below the brood-chamber, after the brood-chamber is filled with stores.

I also use an entrance between the brood-chamber and upper super, so as not to compel the bees to pass the brood-chamber and lower super, and found many bees using this entrance. I use the Danzenbaker super with fences and 4x5 sections. I have some times taken out all the sections from the super when half-filled and placed them in different parts of the super, as I believe that a certain amount of bees work at one section till full before starting on another. I have, sometimes, when bees desire to swarm, taken out the brood-frames and changed ends so that bees will be subdued; or, in plain words, it will seem to them some thing new, and forget the swarming-fever. I have had no trouble ever since. This plan works in 4 trials out of 5.

2. Will a queen, which when introduced to a colony has not been fertilized, lay worker or drone eggs?

3. Should I introduce an untested queen to a colony and use queen-excluders to prevent her from leaving the hive to become fertilized, would such a queen become fertilized in the hive? or can't a queen be fertilized in the hive?

4. What eggs would an untested queen lay first when introduced and not yet fertilized?

5. How soon will a queen be fertilized when introduced?

6. Does a queen lay eggs that are never hatched?

7. Have you ever seen two different kinds of drones in one colony?

8. Will a 2-frame nucleus and queen, purchased in May, make a full-sized colony by fall, and also produce some surplus honey?

PENNSYLVANIA.

ANSWERS.—1. It is very kind of you to relieve the bees of so much labor, but I am afraid they do not appreciate your kindness. Left to their own devices bees always prefer to have their brood-nest near the entrance, carrying their honey above the brood or back of it, even though that may seem to you unnecessary labor. Week before last I saw a man shoveling a pile of stuff from one end to the other of a box perhaps 10 feet long. Then he turned about and shoveled it all back to the end where it first was. Some might have advised him that it would have been better to have left it where was in the first place, saving himself a lot of hard shoveling, seeing he left it just where he found it; but he would have replied that if he had left it where it was in the first place that the sand, gravel, and cement would not have been mixed. Undoubtedly the bees could give just as good reasons for doing what seems to you unnecessary work. Bees can be made to store honey beneath the brood-chamber, but after sufficient experience you will probably conclude it isn't the best way. But the experience in finding it out will probably be worth something.

You have an excluder under the brood-chamber, so that "should they desire to swarm it would be impossible for the queen to leave the hive." I wonder whether you have tried that out fully. If not, let me tell you what is likely to occur. When the time comes for the bees to swarm, they will leave the hive the same as if the queen were not confined, but not finding her with them they will return to the hive, except in some cases they would go to some other hive. A week or 10 days later the old queen will be killed and a young queen will be ready for swarming. After swarming out a number of times and returning, providing they did not unite with some other swarm, the bees would have a queen that for lack of being fertilized could produce only drones. That, you understand, is what is likely to happen if the excluder remains permanently under the brood-chamber so no queen can leave the hive.

2. If an unfertilized, or virgin queen, be introduced into a colony, she will not be likely to lay till after she is fertilized, and will generally begin by laying worker-eggs.

Before answering your further questions, allow me to correct what seems to be a misapprehension on your part. You are evidently under the impression that an untested queen is unfertilized. Instead of that being the case, an untested queen is one which has been fertilized and has begun laying, but none of her progeny has yet emerged, so it is as yet unknown whether she has been purely mated or not. It is very seldom that an unfertilized queen is sold, but if one is sold, she is sold as a virgin, and not as an untested queen.

3. Occasionally there have been reports of

supposed fertilization in the hive, but it is pretty safe to set it down as a fact that a queen, to be fertilized, must be allowed to fly out. If a virgin is imprisoned in a hive permanently, she will, if she lays at all, lay only unfertilized or drone eggs.

4. By what has already been said, it will be seen that an error is involved in the question, but the general answer may be given that *every* normal queen generally lays worker-eggs at first. Sometimes, however, a young queen doesn't seem to be in right working order at first, and lays some drone-eggs.

5. Without regard to the matter of introduction, a virgin is generally fertilized when 5 to 8 days old.

6. Often. So does a hen. If an egg is not properly cared for, it will not hatch, whether it be laid by a hen or a bee. But a queen-bee differs from a hen in that a hen often lays an egg that can not hatch, no matter how well cared for, while every egg that a good queen lays is capable of hatching out a living insect. It does happen, however, in very rare cases (I have had only one such case in 45 years' experience), that a queen is in some way defective so that not an egg she lays hatches either a drone or a worker.

7. Yes, often.

8. It may in a sufficiently good season.

Reports and Experiences

Bees Did Well

My 2 colonies of bees did well the past season. Having only 2, I probably took more care of them than a large bee keeper would do with many colonies. I got about 100 pounds of honey from each colony, and increased to 3. The honey we get here is mostly white clover, but we also get some from basswood.

If I had to pay three times the subscription price of the American Bee Journal, I could not get along without it.

WALTER M. ADEMA.

Berlin, Mich., Oct. 17.

Short Honey Season

The honey season in the Eastern part of Pennsylvania was very short, owing to the late frost which occurred on May 3. I suppose the flowers were frozen so that the nectar was entirely dried up, or the flowers not fully developed, as the fruit season was an utter failure. Corn is plenty, which is the main crop here. I noticed last spring that my bees, during the very cool nights clustered more on the south side of the hive, leaving several frames empty; still I had the hives covered with oil-cloth.

Something queer happened during the swarming season. When my bees intended to swarm I opened the hive and removed the outer frame on each side, and placed empty ones in their place. The other 8 frames I changed ends. This so provoked the bees that the next morning a dead queen was at the entrance of the hive. It was the old queen, the new one having taken her place Those bees forgot their fever to swarm. I believe this would be a good method to introduce a queen, by changing ends of frames.

HARRY W. GANDER.

Spring Mount, Pa., Oct. 23.

Prevention of Swarming

I notice C. Davenport is receiving "Hail, Columbia" from numerous and divers sources because he, like the small boy, "knows some thing he won't tell." I am going to admit right in the start that my sympathies are with Mr. Davenport. According to my observation the bee-keeper, of all the occupations, trades, professions, or businesses, is the only one who habitually gives (and it is expected he as of a right ought to on all occasions), of his time, of his knowledge, and of his good-will, to whomsoever asketh; yes, and to volunteer the same at every opportunity. I am not saying this is not right, in fact, it seems right, yet, I repeat, that in no other business or occupation is it done, as a rule, or expected. It seems the wiser course, therefore, if one in beedom knows anything he won't tell, he would better not tell that he knows it, or else do like the aforementioned small boy —tell it.

Mr. Davenport knows how to prevent swarming without unprofitable manipulation, but won't explain the process, "therefore," says some wise ones, "we won't believe he knows."

I am preventing swarming while running for comb honey, and am willing to give the secret away, yet nevertheless the wise ones will very likely say "he doesn't know." I am preventing swarming in the same way, and on the same principle, that you would prevent black chickens—by selecting white ones to breed from. I am preventing swarming the same way, and on the same principle, you would prevent having black hogs—by selecting red ones to breed from. I am preventing swarming in the same way, and on the same principle, that you would prevent horned cattle (not by cutting the horns off, but by breeding them off)—by selecting polled cattle to breed from.

Can't be done? Contrary to nature, do you say? All who have tried it for 10 years and have made no progress please hold up your hands. Slow job? Certainly. Takes 4 years to test a breeder for non-swarming.

Don't feel bad, Mr. Davenport. You can't expect to keep the world from moving, you know; and the secret of swarm-prevention must come to light.

E. S. MILES.

Crawford Co., Iowa.

Poorest Season in Years

In this locality the past season was the poorest for honey in many years. There was little swarming and less honey, and, consequently, no revenue to speak of; but lots of hope left.

G. C. GREINER.

La Salle, N. Y., Oct. 19.

Good Fall Crop—Mailing Queens

My fall crop of honey was very good, and of good quality, mostly all being comb, and the bees have plenty to winter on. I harvested about 3000 pounds of comb honey.

I received a queen Sept. 28, that came through the mail in an unprotected queen-cage, and our post-master complained about it. I understand that the postal laws require that queens must be protected by cardboard over the screen side of the cage.

LOUIS WERNER.

Edwardsville, Ill., Oct. 15.

[Certainly, every queen-cage that is mailed singly should have a card over the wire-screen side, so that the postal employees will not be in any danger of being stung when handling the package in going through the post-office. We supposed that every bee-keeper who mails queens knew about this requirement. The common way is to tack a cardboard the same size as the cage over the wire-screen, and on the card is written the name and address of the person to whom the queen is mailed.—EDITOR.]

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CONVENTION NOTICES.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9, and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.

Flint, Mich. W. Z. HUTCHINSON, Sec.

Ontario.—The annual meeting of the Ontario Bee-Keepers' Association will be held in the York County Council Chamber, Toronto, on Wednesday, Thursday and Friday, Nov. 7, 8 and 9, 1906. Hotel accommodations can be had at the Patmer House, $1 50 per day; or $1 per day at the Albion Hotel. We are expecting to have a good convention. The program is to be one of the best. During the same week the Ontario Horticultural Exhibition will beheld. This show of fruit, flowers, honey and vegetables is acknowledged to be well worth visiting.

We extend a very cordial invitation to any American bee-keeper that can attend, to take part in the discussions. Single fare will be given from all points in Ontario by the different railroads.

W. COUSE, Sec.

Streetsville, Ont.

Illinois.—The 16th annual session of the Illinois State Bee-Keepers' Association will be held in the Supreme Court Room in the State House. on Tuesday and Wednesday, Nov. 20 and 21, 1906. Railroad rates to annual sessions of the I.O.O.F. at Springfield, can be used by bee-keepers also as follows: An open rate of one fare plus 25 cents for the round trip to Springfield and return. This rate can be secured by any one desiring to come to Springfield on the date of ticket sale, the open rate having been made by all lines in the Central and Western Passenger Associations. Tickets can be purchased on Nov. 18, 19, 20 and 21, but must be used on the day of purchase. The return limit on tickets is Nov. 24.

Hotel rates, for board and lodging, $1.25 and upward. We expect the largest meeting the Association has ever had, as its membership is larger than ever before, and, furthermore, we expect to have with us Pres. C. P. Dadant, of the National; Pres. George W. York, of the Chicago-Northwestern; Pres. J. E. Johnson, of the Western Illinois; General Manager N. E. France, of the National; and R. A. Holekamp, Secretary of the Missouri State Bee-Keepers' Association. Let every member of our Association make an effort to be present, and bring a neighbor bee-keeper with him, assured of a good meeting if you will help to make it such. (Bring your wife, too.)

JAS. A. STONE, Sec.

R. R. 4, Springfield, Ill.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

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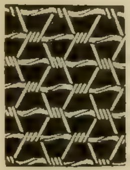

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To take to the Bee-Keepers' Convention. First-class equipment all the way. Through service from Chicago to San Antonio with exception of change at St. Louis. You run through the beautiful Ozarks over this scenic line to the Southwest. The convention is held at San Antonio in November; the weather is delightful; it is just the time to see this great section at its best.

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This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.20, or club it with the American Bee Journal for one year—both for $2.00; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
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Bargains in Second-hand Machinery & Tanks

1 35-h.-p. Steam Engine.
1 Steam Pump.
Lot of Shafting, Hangers, Pulleys, etc.
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3 Wooden Vats—8 to 16-ft. long, each.
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75-gal., 300-gal. (metal with wood-jacket), 400-gal. and 500-gal.

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E. N. EATON, M.Sc., Chemist.
4 years State Chemist, Minnesota.
6 years State Analyst, Illinois.
1235-1248 Caxton Building,
334 Dearborn Street, Chicago, Ill.

Samples of Honey analyzed. Correspondence solicited.

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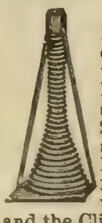
Queen-Clipping Device Free!



The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. It is used by many bee-keepers. Full printed directions sent with each one. We mail it for 25 cents; or will send it **FREE** as a premium for sending us One New subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & CO.,
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This makes a combination that is very hard to beat, and you should be greatly pleased with it.

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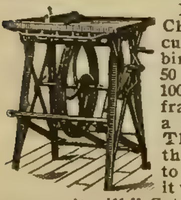

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.
Address, W. F. & JOHN BARNES,
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FRANK HECK, Editor.

Subscription Price 50 cents per Year.
Write for Advertising Rates.

The most prominent and successful, practica poultrymen write for the Successful Poultry Journal, and tell how they build their houses, mate their fowls, manage their incubators, feed both young and old—and, in fact, tell how they succeed and make money. Send for sample copy.

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Bees

A 40-page **Catalog free** The latest work on **BEE-SUPPLIES**, Hives, Fixtures, Etc. Italian Bees and Queens. If interested in bees, do not fail to write us.

John Nebel & Son Supply Co., High Hill, Mo.
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$1 to $3 a pair. Registered Homing Pigeons; Big Squab Breeders. Also Angora and Belgian Hares; Fancy experiment station; crosses in all colors. **HULBERT**
Mail orders filled. GLEN ELLYN, ILL.
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A large monthly magazine devoted to Agricultural, Horticultural and rural pursuits, showing the wonderful development of the Pacific Coast. Beautifully illustrated, well edited and artistically printed on fine book paper. An encyclopedia of information for colonists. Address,

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Greatest offers ever made in the interests of any Poultry Publication.

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Course of Instruction in Poultry Culture
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A Cash Prize for Every Worker

We have arranged our plans so that every worker who secures a few subscriptions for us will get a cash prize or **Poultry Husbandry** free for 3 years, at his option.
Write for a
FREE SAMPLE COPY
of the paper at once. It contains complete information regarding our contests and special offers. Don't waste a moment. Sit right down now and write for copy of the paper. It's free. It may mean a big cash prize for you or the $100.00 in Gold. It means a $20.00 Course of Instruction in Poultry Culture free, anyway, and one of the best poultry papers in America for 3 years.

Hawkins Publishing Co.
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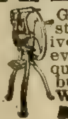
MAKE YOUR OWN CUT GREEN BONE

It's a very easy, simple operation with a CROWN Bone Cutter.



Green bone makes eggs, and stimulates the hen's productive organs. Cut bone fresh every day. The Crown does it quickly with no bother or muss. 25 years building cutters. Write for free catalog. WILSON BROS., Box 618, EASTON, PA.

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An Enterprising, Pushing and Progressive Poultry Journal. A live and instructive Periodical Different From All the Rest.

True to name, a concise and boiled down digest of all the doings in the Poultry World—A time-saving periodical; methodical, to the point, and conservative.

IF you want to make more money out of your fowls.
you want to get good results with less hard work.
you want to learn how to save your little chicks.
you want to know what to do each month in the poultry yard.

Send in your subscription to the
POULTRY DIGEST PUB. CO.
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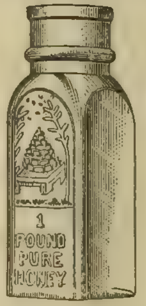


Bottles, Jars of every description ....
—FOR—
Honey-Dealers

C. C. STUTTS GLASS CO.,
Manufacturers,
145 CHAMBERS ST. NEW YORK, N. Y.
38E4t Write for illustrations.
Mention Bee Journal when writing.

Moore's Strain of Italians

AS RED-CLOVER WORKERS

Wm. S. Slocum, Newport, R. I., writes:

"My friend, W. O. Sweet, West Mansfield, Mass., asked me about 2 years ago where he could get good queens, and I referred him to you. To-day he called on me and said he noticed the colonies with your queens were storing much faster than others. He went immediately to his red clover field, and saw bees working there freely."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders **By Return Mail**, and shall probably be able to do so until the close of the season.

J. P. MOORE, R.F.D. 1 Morgan, Ky.
26Etf Mention Bee Journal when writing.

Big Reduction in Supplies

Until May 1. Big stock of Dovetailed Hives and Marshfield Sections to draw from. FREE—a year's subscription with order amounting to $15 or over. Send for 32-page Illustrated Catalog—free.
W. D. SOPER (Route 3) **Jackson, Mich.**
28Etf Please mention the Bee Journal.

THE
EXCELSIOR

Send for free Catalogue.

Hatch Chickens by Steam with the
EXCELSIOR INCUBATOR
Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
GEO. H. STAHL, Quincy, Ill.

Wanted A man who wants a permanent position. To do all kinds of work on a small farm. To help with bees and an extensive honey business. Write wages wanted, and particulars. H. C. AHLERS, WEST BEND, WIS. R.F.D. 1. Tel. 829, Ring 4.
43Atf Please mention the Bee Journal.

Gloves for Handling BEES

Something New.

Something You Want.

Our specially prepared Gloves soften the hands and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff. We furnish them without armlets or sleeves for using in sweeping, gardening or general housework, driving or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white.

All the points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail, or with other goods, at the following low prices:

Bee Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies	.35
Men's Gauntlets, fleece-lined	.35
Ladies'	.35
Ladies', unlined, for wearing at night or during doing light housework	.40

Early Order Discounts on Bee-Supplies (excepting above and a few other articles) as follows:—

7 percent for cash with order before Oct. 1st
6 " " " " Nov. 1st
5 " " " " Dec. 1st
4 " " " " Jan. 1st
3 " " " " Feb. 1st

If you haven't our 1906 catalog, send for one and a free copy of the American Bee Keeper (50c a year. Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.

Honey and Beeswax

CHICAGO, Oct. 19.—Market is practically bare of honey of all kinds. Choice white comb brings 15@16c, with off grades 1@3c less. Extracted, 7@8c for white; amber, 6½@7½c; buckwheat, 6@6½c. Beeswax selling upon arrival at 30c. R. A. BURNETT & CO.

DENVER, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Oct. 20.—The demand for comb honey is good. No. 1, white, brings 14½c wholesale, and 16c retail, by the case. Off grades less from 2@3c per pound. White clover extracted brings in barrels, 8c per pound; in cans, 8½c; amber grades, light, 6c in barrels; dark, 5½c in barrels; in cans, ½c per pound more. Beeswax, 30c. C. H. W. WEBER.

PHILADELPHIA, Oct. 22—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last 10 days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No. 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Oct. 9.—The demand for comb honey is very good, especially for fancy stock, and arrivals are now quite heavy. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12@13c; buckwheat at 11c per pound. Extracted is in good demand and prices are somewhat firmer. We quote California white at 7½c; light amber at 6½@7c, and amber at 6c per pound. Southern honey in half-barrels in good demand and finding ready sale at from 55@65c per gallon, according to quality. Beeswax is somewhat weaker, and 30c is about top price.
HILDRETH & SEGELKEN.

KANSAS CITY, Oct. 9.—The demand for both extracted and comb honey continues good; the supply is light. We quote No. 1, white comb, 24-section cases, per case, $3; No. 2, $2.75. Extracted, white, in cans, 7 cents; amber, 6@6½c. Beeswax, 25c. C. C. CLEMONS & CO.

CINCINNATI, Sept. 18.—The demand for comb honey is good; fancy and No. 1 selling freely at 15@16c; lower grades not wanted at any price. The market on extracted honey is quiet, as quantities remain unsold from last season. We quote amber at 5½@7c, according to quality. Fancy extracted white clover at 7½@8c. We are paying 29@30c for choice yellow beeswax free from dirt. THE FRED W. MUTH CO.

INDIANAPOLIS, Sept. 29.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Oct. 8.—The market on comb honey remains firm. The demand is fair, and the receipts equal to the demand. Fancy white comb honey in a retail way brings 15@16c, with very little demand for low grades. Extracted white clover in barrels brings 7½@8½c; cans the same. Beeswax, 26@28c. GRIGGS BROS.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

Will buy or sell you . . **HONEY** If you have any to sell, . . .

mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

For Rent on Shares

275 Colonies of **BEES** in 10 frame Langstroth hives. These are the bees The Rambler ran 2 years.
J. C. McCUBBIN,
43A3t REEDLEY, Fresno Co., CALIF.

HONEY AND BEESWAX

When consigning, buying or selling, consult

R. A. BURNETT & CO.

199 SOUTH WATER ST. CHICAGO, ILL.

QUOTE US We Buy Car-loads of

Extracted Honey!

THE FRED W. MUTH CO., 51 Walnut St., Cincinnati, O.
41Atf Please mention the Bee Journal.

Cash for Beeswax

Till further notice, **30c cash** paid for pure, yellow beeswax, delivered here.

Frank G. Clark, 147 E. Kinzie St. Chicago, Ill.

Mention Bee Journal when writing.

WANTED TO BUY AT TOP PRICES

WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.

——Catalog Free——

29Atf **1004 East Wash. Street, INDIANAPOLIS, IND.**

HONEY! HONEY! HONEY!

Have you any to sell? If so, see us before selling. We pay highest Market Price for both Comb and Extracted Honey—also Beeswax. . . . .

GRIGGS BROTHERS, 521 Monroe Street, Toledo, Ohio

Mention Bee Journal when writing.

HONEY

HONEY

HONEY

Instead of having honey offered us by bee-keepers this season, we have had enquiries for good honey from nearly every quarter. We have secured an unusually fine lot of

WATER-WHITE ALFALFA HONEY

packed in 60-pound cans, two in a case. We offer the same at the following prices:

One 60-pound can	8½ cents per pound
Two 60 pound cans	8 " "
Ten 60-pound cans or more	7½ " "

This honey is giving entire satisfaction and is selling where we have previously furnished White Clover. Sample on application.

DADANT & SONS, HAMILTON, ILL.

(We are giving liberal discounts on **Bee-Supplies** now.)

HONEY

HONEY

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN

265 & 267 Greenwich Street - NEW YORK, N. Y.

30Atf

AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., NOV. 8, 1906 No. 45

Patterson Brothers—U. S. Soldiers—in Apiary of T. P. Robinson, of Bartlett, Texas.

Queen-Rearing Apiary on Petit St. Bernard Mountain (Alps), 6560 feet above sea-level.
(See page 930)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.		Space Discounts.	
4 times....	5 per cent	100 lines...	5 per cent
13 "	10 "	500 " ...	10 "
26 "	20 "	1000 " ...	20 "
52 "	30 "	2000 " ...	30 "

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Postal-Card.—We have secured a somewhat comic Souvenir Postal Card for bee-keepers, printed in 4 colors—red, yellow, blue and black. At the left end the following are pictured: An old-fashioned straw bee-hive with bees circling around and above it; a sad-eyed bear with his "hands" over his sweet-loving heart; a jar and a section of honey; also a spoon with a card attached, reading, "Come let us spoon awhile." At the bottom of the card, and to the right, are these words: "Eat thou honey because it is good."—Prov. 24:13. At the left of the bear's head, and encircled with bees, is this sentence: "I can not BEAR to lose you;" and at the top, and to the right of the bear's head and bees, is this stanza:

O won't you BEE my HONEY,
And cheer this lonely heart?
For I would hug you all the time,
And we would never part.

PRICES, postpaid: 3 cards for 10 cents (stamps or silver), or FREE with the American Bee Journal one year at $1.00; 10 for 25 cents; or 25 for 50 cents. There is a blank space on the card about 2 by 2½ inches in size for writing. Send all orders to the office of the American Bee Journal.

"It is continuous advertising that impresses the public with the stability of a firm."

Special Bargains

in dovetailed **HIVES**. Plain and Beeway **SECTIONS**. Hoffman **BROOD-FRAMES**. Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.
JOHN DOLL & SON, Proprietors,
Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

Dittmer's Foundation

is the best foundation for you to use, because it is tough, transparent, will not sag, and has the odor of pure beeswax.

WORKING WAX FOR CASH A SPECIALTY

This is the cheapest way for you to secure your foundation.

BEESWAX ALWAYS WANTED

Our warehouse is well filled with all kinds of **Bee-Keepers' Supplies.**
5 percent Discount during November.

GUS DITTMER, Augusta, Wisconsin

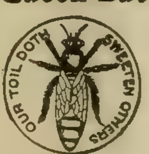
IF YOU WANT TO KEEP POSTED UPON THE
GREATEST ✻ POLITICAL ✻ QUESTION
OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks


OUR TOIL DOTH SWEETEN OTHERS

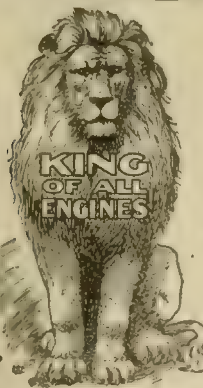
This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Wisconsin Basswood Sections
And Prompt Shipments
Is what we are making for our customers.
—DOVETAILED HIVES AND SHIPPING-CASES—
We carry a full line of **SUPPLIES.** Ask for Catalog.
THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers



The

Lion Engine

is sold direct from FACTORY to USER

Acting on the theory that "testing is proving" we will send any responsible person, on certain very easy conditions, one of our three h. p. gas or gasoline engines on **10 days test trial.**

This engine is **no experiment,** but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

Our igniter and mixer are of the most simple and reliable character. The gasoline is always properly vaporized and the igniter point never comes together unless a spark is required.

The fly ball type of governor is used, which automatically controls the exhaust, igniter and the gasoline; it also allows the speed to be changed from 100 to 600 revolutions per minute while the engine is in motion—a **very superior feature.**

LION GAS OR GASOLINE ENGINES are simple in construction and

EASY TO OPERATE

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When writing, please **state definitely** for what purpose you wish to use this engine and whether gas or gasoline is to be used for fuel. **This information is very important to us.** Please remember we send the engine. **not the engine agent.**

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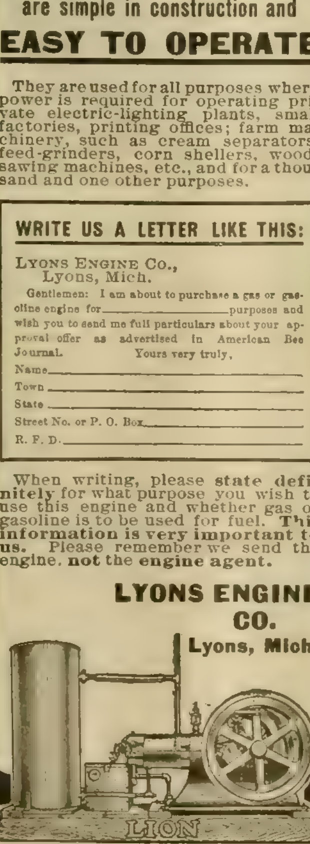

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BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. ∴ ∴ ∴ **Catalog Free.**

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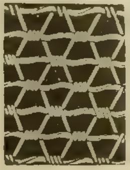
I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

EARLY ORDER DISCOUNT During November I will offer a discount of 5 percent on Supplies for next season's use. In December the discount will be 4 percent. Cash must accompany order.

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.



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Hatch Chickens by Steam with the EXCELSIOR INCUBATOR Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
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Fire Sale of Bee and Poultry Supplies

Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

Lewis Goods at 5 percent Discount DURING NOVEMBER, EXCEPT ON HONEY-PACKAGES.

Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)
Long Distance Telephone, North 1559. **191 AND 193 SUPERIOR ST. CHICAGO, ILL.**
(Three blocks north and one block east of our old location.)

Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8.00	$ .95	$ 5.00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10.00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested ..	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18.50	2.20	11.00	19.00

Straight 5-band Golden Breeders.......	$10.00
Select Golden Breeders	3.00
" 3-band "	3.00
" Carniolan "	3.10
" Caucasian "	3.25

1-frame Nucleus (no queen)	$1.50
2-frame " "	2.00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive........................	6.00

Bees by the pound in light shipping-boxes, $1.00 per pound.
Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

Some Styles of Honey-Jars

Now is the time to make ready for Thanksgiving and Christmas trade. Honey at this time of year always sells best. Put up your Extracted Honey in one of the attractive Jars illustrated on this page, label it nicely, and you will be surprised at the ease you can sell it and the prices obtainable.

½-lb. Tumblers

Tip-Top Jars.

HALF-POUND TUMBLERS

There seems to be an increasing demand for a cheap tumbler to put up a half-pound of honey to retail at 10 cents. We have secured a stock of such tumblers at a price which enables us to offer them at $4.50 per barrel of 32 dozen This is less than 1½c apiece. For less than barrel lots we cannot repack them for less than 25c a dozen; or we will put them up 4 dozen to the case with partitions ready to re-ship when filled, at $1 a case; 10-case lots at 95c.

TIP-TOP HONEY-JARS

This is a new-style jar sealed with rubber ring under rim of a glass top held securely with spring-top fastener. This fastener is applied to a great variety of bottles and jars used for different purposes. We have selected two styles among them all as being the most suitable for honey. The one and two pound square jars may be had with spring top fastening instead of cork at 75c per gross extra. We can furnish in two sizes.

½-pound, 45c per doz.; gross, $4.50.
1-pound, 50c per doz.; gross, $5.

HERSHISER JARS

These jars were designed for use in the honey exhibit at the Pan-American Exposition in Buffalo, and are very neat and attractive. They have cork-lined aluminum caps which seal them tight. They are made in 4 sizes square and 3 sizes round. Write us for complete prices on this style of jars.

NO. 25 JARS

The illustration to the side does not do justice to this jar. It must be seen to be fully appreciated. We have sold this jar for years and in larger quantities than any other. It is really our standard, and the demand for it is unfailing. Packed in re-shipping cases of 2 dozen each. We are now prepared to offer No. 25 jars in partitioned cases of 2 dozen each, ready to re-ship, when filled, at $1 per case; 10-case lots or over, 95c; 50-case lots at 90c.

MASON FRUIT-JARS

These are very largely used for canning fruit, and are often used for honey as well. As we buy them by the car-load, we can make the following prices at Medina, all put up complete with porcelain-lined caps and rubbers, in cases of one dozen:

Size.	*Doz.*	*6 doz.*	*12 doz.*
Pint	$0.52	$3.00	$5.75
Quart	0.55	3.10	6.00
½-gal.	0.75	4.10	8.00

Triumph Wrench for Mason Caps, 15c each; by mail, 20c. Ball's Waxed Rings, better than rubbers, 5c dozen; postage, 3c.

LABELS

Don't fail to label your bottles and cans of honey. A good label is a profitable advertising instrument. Don't make the mistake of using a poor label. We are properly equipped to turn out the best work in the shortest time at lowest prices. Write for our label catalog showing 50 styles. We can make special labels for large orders.

Hershiser Jar.

No. 25 Jar.

Write Nearest Branch or Agent for Catalog.

Alabama
*Wetumpka........J. M. Jenkins
Canada
Toronto........E. Grainger & Co.
California
*Fresno........Madary Planing Mill
*Los Angeles........California National Honey-Producers' Association
Colorado
Denver........The L. A. Watkins Mdse. Co.
Fruita........Fruita Fruit and Produce Ass'n
District of Columbia
Washington........The A. I. Root Co.
Georgia
Savannah........Howkins & Rush
124 Liberty St.
Illinois
Chicago........The A. I. Root Co.
144 East Erie Street.
Indiana
Indianapolis........Walter S. Pouder
Evansville........Vickery Bros.
Iowa
Des Moines........Joseph Nysewander
Kansas
Augusta........Carl F. Buck

Mississippi
Brazelia........George A. Hummer
Massachusetts
Boston........H. H. Jepson. 182 Friend Street
Lyonsville........W. W. Cary & Son
Maine
Mechanic Falls........The A. I. Root Co.
Maryland
Baltimore........Rawlins Implement Co.
Michigan
Bell Branch........M. H. Hunt & Son
Fremont........George E. Hilton
Minnesota
St. Paul........The A. I. Root Co.
1024 Mississippi Street.
Missouri
High Hill........Jno Nebel & Son Supply Co.
Springfield........Springfield Seed Co.
St. Louis........Blanke & Hauk
New Mexico
Carlsbad........Edward Scoggin
New York
Syracuse........The A. I. Root Co.
New York City........The A. I. Root Co.
44 Vesey Street.

Ohio
Columbus Grove........McAdams Seed Co.
Toledo........Griggs Bros., 521 Monroe St.
Zanesville........E. W. Pierce
Cincinnati........C. H. W. Weber
2146 Central Avenue
Oregon
Portland........Portland Seed Co.
Pennsylvania
Du Bois........Prothero & Arnold
Philadelphia........The A. I. Root Co.
10 Vine Street
Williamsport........E. E. Pressler
633 Lycoming Street
Texas
Dallas........Texas Seed and Floral Co.
San Antonio........Udo Toepperwein
Uvalde........D. M. Edwards
Utah
Ogden........The Superior Honey Co.
Virginia
Spottswood........W. E. Tribbett

* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

AMERICAN
WEEKLY
BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

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GEORGE W. YORK, Editor — CHICAGO, ILL., NOVEMBER 8, 1906 — Vol. XLVI—No. 45

Editorial Notes and Comments

The National at San Antonio

When the majority of its subscribers are reading this number of the American Bee Journal, the National Bae-Keepers' Association will be in session in San Antonio. It will be its first meeting in that part of our country. It is hoped that the great bee-keeping South will be well represented.

At the time of writing this, the special car of bee-keepers to start from Chicago is assured. There will be in it about the same number of persons as crossed the continent to attend the Los Angeles convention of the National in August, 1903. No doubt it will be a similarly happy and congenial company.

◆

Honey Definitions and Standard

The definitions and standard of honey approved by the United States Department of Agriculture, are as follows:

1. Honey is the nectar and saccharine exudations of plants gathered, modified, and stored in the comb by honey-bees (*Apis mellifica* and *A. dorsata*); is lævorotatory, contains not more than twenty-five percent of water, not more than twenty-five hundredths percent of ash, and not more than eight percent of sucrose.
2. Comb honey is honey contained in the cells of comb.
3. Extracted honey is honey which has been separated from the uncrushed comb by centrifugal force or gravity.
4. Strained honey is honey removed from the crushed comb by straining or other means.

The following supplementary statement is also published, on account of honey-dew sometimes being gathered by the bees:

> The standard does not in any way exclude small quantities of honey-dew from honey. We realize that bees often gather small quantities of honey-dew that can not be detected in the finished product by chemical means and does not damagel its quality. It is only when relatively large amounts are gathered that the quality of the honey is impaired, and it fails to meet the requirements of the standard. It is generally agreed that such a large amount of honey-dew is injurious to the quality of the product, which can not then be properly regarded as honey.

◆

Irish Bee Journal on the Superseding of Queens

On page 55, of the Irish Bee Journal, appears an editorial headed "Hypercriticism," in which Editor Digges refers to the first editorial on page 685 of this Journal, and says:

> Our much esteemed contemporary appears to have taken a view of Mr. Maguire's article which, certainly, did not present itself to us. We think it unlikely that our readers generally gathered from the article that, as our contemporary states, "the novice is practically told that all successful bee-keepers destroy each queen when it becomes a year old."

Whatever view may have presented itself to Editor Digges, we must confess to being greatly puzzled, upon carefully studying again the extracts quoted on page 685, to get any other view from them than the one already expressed, namely, that the right thing is to replace every queen when a year old. Read again that sentence, "But, although, the matter is strongly urged in bee-guides and bee-journals, few amateurs seem to have grasped the full significance of having every season, a young queen of the previous year's rearing, to head each colony." If *each* colony is to have *every* season a young queen of the previous year's rearing, how can that possibly be accomplished unless every queen is destroyed when it becomes a year old?

The editor suggests, however, that exceptions to rules are generally understood, saying:

> When Mr. Maguire wrote, "Experienced bee-keepers know the importance of requeening their colonies every year," it is not to be supposed that he intended to imply that every colony should be requeened every year, regardless of the usefulness of the reigning queen. If one were to say, "Experienced bee-keepers know the advantage of clipping their queens every spring," we should expect even the novice to understand that only queens that required clipping were referred to.

It must be confessed that it is not so very clear how that helps out with the puzzle. Of course, one would not clip a queen whose wings have already been removed, but, all the same, the bee-keeper who practises clipping allows no queen to enter the season of the harvest with whole wings. Neither would the bee-keeper be likely to supersede a queen where the bees had already anticipated him.

Let us, however, frankly accept that exceptions should be allowed, and that the statement of Mr. Maguire does not preclude a longer lease of life than one year for queens of unusual merit; that still leaves the general rule. Evidently, however, the Irish Bee Journal understands something else than yearly superseding to be taught. In response to the request for authorities, it gives specific quotations from six.

Langstroth is quoted as saying: "The fecundity of the queen-bee ordinarily diminishes after she has entered her third year.

Simmins, in his "A Modern Bee-Farm," says: "I assert as a fact that to enable one to keep his stock *generally* in the highest state of efficiency, he must retain no queens that have seen their second summer. Take a queen reared even so late as August; she will be in full profit the following season; keep her till another season and her colony will be hardly second-rate."

Cheshire says there is reason for superseding a queen at the end of her second year of work.

Sladen says queens are often worn out in 3 years.

"The Irish Bee-Guide," a book written by Editor Digges himself, which has had high words of praise, says: "After her second year a queen ceases to be profitable."

Doolittle says: "If we are using a system of strenuous work........then there is some propriety in the argument that a queen may not prove good longer than 2 years."

This Journal is in entire accord with its Irish contemporary in considering the foregoing a fair presentation of the general teaching on the subject. It will be noted that Mr. Simmins is the only one who limits the work of the queen to a single year. Mr. Sladen allows her 3; all the others 2.

The Irish Bee Journal thinks that Mr. Maguire's statement, "rightly understood," is supported by these authorities. The puzzle still remains with us to understand how, with the one exception, they can possibly support the "having, every season, a young queen of the previous year's rearing, to head each colony."

Miscellaneous News-Items

Dr. E. F. Phillips, Acting in Charge of Apiculture, at Washington, D. C., was married Oct. 27, to Mary H. Geisler, in Philadelphia. They will be at home after Jan. 1, at "The Nansemond," 22d and N St., N. W., Washington, D. C. Our heartiest congratulations are extended to Dr. and Mrs. Phillips.

◆

L'Apicoltore—the oldest of the Italian bee-papers, over 38 years old—is very progressive, and often quotes from American writers on bee-keeping. We have just received a request from a Dr. Triaca, for permission to translate Doolittle's "Scientific Queen-Rearing" into Italian for publication in instalments in L'Apicoltore. This is a compliment, not only to Mr. Doolittle, but to American bee-literature as well.

◆

Dr. C. C. Miller's Report for the season of 1906, is summed up in these few words, in reply to a question:

> Yes, we got a very few sections—don't know just how many, but not worth mentioning. But we'll have a good stock of sealed combs for next spring, and the hives will be heavy for winter. C. C. MILLER.
>
> Marengo, Ill.

That's rather discouraging for a specialist bee-keeper. He'll have to draw somewhat heavily on the bee-keepers' "Bank of Hope" until another season. But there are those who feel certain that 1907 will be a great honey-year. "So may it be!"

◆

Patterson Bros. in an Apiary.—When sending the picture appearing on the first page, Mr. Robinson wrote as follows:

> MR. YORK:—I enclose a photograph of a part of one of my apiaries with two United States soldiers in the foreground—Patterson brothers. Joe E. Patterson, who stands at the left, served in the Spanish-American war in Cuba, served through the Boxer Insurrection in China, and served over 4 years in the Philippine Islands. His rank is First Corporal. On one occasion while acting as scout in the Philippine Islands, being alone, he shot and killed 7 natives without moving out of his tracks. On another occasion (in a battle this time) the American side run short of ammunition, and were forced to repel the bolo attack with sword and bayonet. On this occasion Mr. P. had all the wood chopped off his army gun. In speaking of the affair, he said, "It was a little scarey about then."
>
> He was engaged in 22 battles and innumerable skirmishes, serving the army 9 years, and received only a slight flesh-wound in the arm. Last week he resigned his commission as an army officer, received an honorable discharge, and will now try the life of a private citizen. He is very much interested in bees, and expects to engage in this work before a great while. T. P. ROBINSON.

◆

Mr. Morley Pettit, of Canada, has been compelled to stand suit for the loss of 2 horses from stinging of bees. The verdict awarded was $400 damages as the value of the team. The case was appealed, but it seems the higher court upheld the original verdict. It seems that on Aug. 10, 1905, Freeman Lucas led his team into an oat-field which was across the road and at a safe distance from one of Mr. Pettit's bee-yards. His intention was to cut the oats. He went back to close the gate, and when he got to the horses he found a cloud of bees around them, and stinging them. He attempted to drive the bees away with his hat, and was stung himself, so that he ran away and rolled in some mud, and then went home. The horses both died. The indications were that the swarm had clustered in the oats, and that the horses had gone into them and stirred them up. Local prejudice against bees, and sympathy, influenced the jury so that they saddled $400 and costs on Mr. Pettit. Messrs. E. D. Townsend, W. F. Marks, R. F. Holtermann, F. J. Miller, R. H. Smith, Edwin Trinder, Jas. Armstrong, Dr. Burt, and a number of other bee-men were kind enough to attend the trial, and the National Bee-Keepers' Association also helped Mr. Pettit in the cost of the appeal, as he evidently was keeping his bees in a perfectly legitimate and proper manner.

◆

The St. Bernard Apiary shown on the first page, is thus described by Mr. Dadant:

> MR. EDITOR:—I send a photograph of a queen-rearing apiary established in the Alps, at an altitude of 6560 feet, for the rearing of Caucasians, by Mr. Mont-Jovet, of Savoie.
>
> Mr. Mont-Jovet writes me quite a long letter, in which he informs me of some of his experiences. The apiary in question was taken from Albertville, on the plains of the river Isere, to the mountain of Petit St. Bernard, on July 1, 1906. A number of queens and drones had been hatched at Albertville, and the purpose was to take them where the mating would undoubtedly be pure, since there are no bees so high in the mountain. A part of the trip had to be accomplished on mule-back, and for that purpose the hives were fastened together in pairs. The rearing of queens and drones beforehand was done in order to gain time. But the cool and damp temperature of the mountain height rendered the queens and drones apathetic, and great difficulty was encountered in getting them to mate. After 5 days 5 queens out of 20 were missing—apparently lost on their wedding-trip. Only 3 out of the 20 virgin queens hatched in the plains were fertilized. The others were lost.
>
> After that the hatching of queens and drones took place at the apiary, and the success was better. It would seem that the queens and drones hatched at that high altitude were more vigorous and hardy than those hatched at a lower altitude. Eleven out of the first 13 queens were successful, and became fertile.
>
> The breeding was continued during July and August, when the colonies began to kill their drones in spite of feeding and queenlessness. In September the apiary was moved back to the plain.
>
> Mr. Mont-Jovet is of the opinion that the rearing at high latitude makes the queens and bees more rustic. This matter is worthy of more experiment. C. P. DADANT.

◆

Mr. C. Hostettler and Wife, of Rollingstone., Minn., called at this office last week. Mr. H. reports keeping from 50 to 80 colonies of bees, and this year, although a poor honey season, his crop was something like 3000 pounds. He found no difficulty in disposing of it at a good price.

◆

An Apiarian Display and Bee-Study was held in one of the Chicago day-schools early in October. Through the courtesy of Mr. Arnd, of the York Honey and Bee-Supply Co., there were shown a hive, veil, gloves, smoker, and other things along the bee-supply line. There was a program given by several departments of the school, which included 3 bee-songs and recitations about bees, etc. One of the teachers gave a talk on bees and their work. It is reported that the audience, which was composed of the school-children and their parents, was greatly interested. Of course, it would be more entertaining if live bees could also form a part of the display. This might be done in the spring or in September. There is scarcely any other subject, aside from bee-keeping, that is of so great interest to children as well as their elders. Besides affording educational profit, it should also lead to a larger use of honey in the homes of the children. In the case referred to above, a number of the school-children wrote letters to Mr. and Mrs. Arnd, telling about the event, and also thanking them for furnishing the articles that helped to make up the display.

◆

Apiarian Photographs.—We can use more pictures of apiaries or of other things of interest to bee-keepers. If you have any that you think the readers of the American Bee Journal would like to see, kindly send them to us, and we will report if suitable for engraving for reproduction, when you can furnish some descriptive matter to accompany them when printed. After using we will return the original photographs, if desired.

Contributed Articles

No. 20—Dadant Methods of Honey-Production

BY C. P. DADANT

MR. C. P. DADANT:—While traveling among the New York State bee-keepers this summer, I found a tendency among a lot of them to go to big hives. Some had adopted hives with 14 Langstroth frames in the brood-chamber; also using an extracting super the same depth with 14 frames. They claimed that these big hives were best for out-apiaries—no swarming, etc.

I have become a convert to the big hive, but I am in doubt concerning a few things, and as you and your respected father had a large experience in such matters, I would appreciate it if you would advise me on the following points:

1. Would it not be best for me to adopt the Jumbo hive, with its deep frame, rather than a hive with 14 frames of Langstroth regular depth? I believe the deeper Jumbo frame makes the queen lay better than 14 frames spread out so shallow. Am I right?

2. In using an extracting super, Dr. Phillips says if he adopted a Jumbo brood-chamber he would also use a Jumbo body and frames for an extracting super, as he would not be bothered by two different sized frames in his apiary. I notice you use a frame for extracting that is shallower than your brood-frames. Now, would you advise me to use a Jumbo body and frame for extracting super?

We can get from 100 to 120 pounds of extracted honey per colony here, and I think the Jumbo super wouldn't be too large, especially if the Jumbo brood-chamber were full of bees. I don't want to have two kinds of frames in a hive if I can avoid it.—D. E. L., Sept. 26, 1906.

Replying to the above enquiries, I wish to say that we long ago made a thorough trial of both deep and shallow frames for extracting. We had at one time something like 110 regular 10-frame Langstroth hives occupied with bees, and we considered that it might pay to use double stories. We had already, for years, used the 6⅝-inch super with a frame having a side-bar 6 inches deep. We made 60 or 80 full-depth supers, but after a few years of trial we discarded them. Mind, these were of Langstroth depth, consequently more shallow than our large frames of Quinby size. The main objection to these frames was that the super gave too much of an increase of space at once, and caused too much loss of heat in cool seasons, when compared with the shallow supers.

It sometimes happened that supers were needed in May. At that time the nights are cool, and a shallow super does not cause the deperdition of heat that a deep super makes. The bees are slow to go into a deep super, very probably for that same reason. But when they go into the super they are much more likely to draw the queen to it with them. The frame being of the same size as that of the lower department, there is more of a tendency for her to lay in the super. It is certainly for this reason that many extracted-honey producers find it necessary to place an excluding honey-board between the two stories. Excluding honey-boards are unnecessary with our management, and I have a dislike for them because of the trouble they cause when glued fast by the bees. It is quite probable that there are not many places where propolis is as plentiful as it is here, for our bees literally fill all the cracks and crevices with it at times when there is no crop. It seems as if their leisure hours in the dry summer time were all employed in gathering propolis. This is added to from year to year. It is not objectionable in ordinary management with plain hives, but honey-boards are usually so glued that they are difficult to handle without damaging them, and the bees sometimes even stop up some of the holes in a zinc excluding-board with this sticky substance. We find that with the shallow super, such as we use, the bees take possession more readily, and place honey more evenly through it, leaving but little room for the queen to lay; and as she naturally prefers deep combs, she remains downstairs more willingly. It is only when she is short of drone-comb, and there happens to be drone-comb in the super, that she is readily induced to move up to it. On the other hand, we found that when we gave a full-depth super the bees often filled only a part of the depth with honey, and the queen was more readily induced to move up and stay there.

There are some other advantages to the shallow super. One of them is the ease with which the comb may be uncapped. The honey-knife will uncap a 6-inch comb with only one stroke. The combs are less likely to break when extracted, if they are of new construction and heavy. A deep comb, especially in Quinby size, is quite fragile when new and heavily laden.

Another reason for our preference, is that a deep super is of great weight. Our 6⅝-inch supers usually weigh over 50 pounds each when full. They are sufficiently cumbrous, and we do not wish anything deeper. The shallow combs are also more readily cleaned of bees.

Taking it all in all, we can not see that there is any advantage to deep supers, but we see several disadvantages which seemed very weighty to us in actual trial.

On the other hand, the reader will bear in mind that we are not in favor of an extracting super as shallow as the 4¼-section super. A much greater crop may be expected when running for extracted honey, and supers that would give satisfaction in producing comb honey are entirely inadequate for the harvesting of extracted honey.

The only possible use to which super combs may be put is the feeding of destitute colonies, and in that case only would deep combs be serviceable. But with our large hives there are always enough spare combs in the lower story of very heavy colonies to feed the destitute ones. In years of scarcity feeding has to be done in the ordinary way, with liquid food in a feeder.

We certainly think the "Jumbo" a good hive for the production of extracted honey, and much prefer it to the shallow Langstroth; but we recommend with it the use of shallow supers, additional stories of these supers to be given as occasion requires.

Hamilton, Ill.

Testing Swarms Before Hiving Them

BY C. W. DAYTON

I would remind those who are so often expressing the wish that bees would not swarm, that the probability is that if bees would not swarm they would breed only enough to keep the colony intact—that is, enough bees would be reared to protect the queen and store only enough honey for the wants of the small colony. In other words, if they would not swarm they would not prepare for swarming. Like the dogs in Massachusetts, when shorn of their tails there became a race of dogs which neglected to grow tails. So when we call swarming "the bane of bee-keeping," we are not sure that it would not be a greater bane not to have swarms.

It appears reasonable to me that swarms and honey-gathering should go hand in hand, and, as one may not always balance the other, it is for the hand of man to render the due assistance or correction. Some colonies run too much force or quantity of bees, while others, which appear to be somewhat deficient in bees, turn out to be what we are pleased to call great rustlers for honey. The populous colony will get more honey than the other at a time when honey is plentiful and easy to get, but when there is a scarcity, the other colony may "hold their own" by far the best. At least that is the way we often find it in watching colonies one year with another. The breeding line is situated somewhere between the extremes of these characteristics, and it requires an accurate understanding of the particular locality in the matter of honey-producing flora to locate this most desirable line.

It will not be proper to give this matter of breeding our bees entirely over to breeders, lest we get a race of bees which are better fitted to producing queens than of providing stores for a time of scarcity; and this trait can not be developed except by work in the open fields. Of course, there always will be breeders who are conscientious, and will breed bees for the points of greatest utility in the hands of their customers rather than for their own immediate advantage. This will build up a substantial and confidential line of trade, and would, if closely followed, create an almost unlimited demand, because there would be unlimited confidence. But we must not forget that it furnishes an opening for unscrupulous breeders to step in and abuse the market. It would be the same with the breeding of bees as it is with the honey or fruit market. About as fast as the market is toned up by those who sell properly produced product, it is brought down by the careless and crafty. A great deal of the poor honey that is in the market is honey which has been bought up by dealers at a low price because of their taking a large quantity, then holding it in an unsuitable storage warehouse until the elements of Nature have divested it of its delicacy and freshness.

A particular strain of bees which are distinguishable because of their color, size, temperament, etc., when tested for actual utility may result in a waste of time and labor in their propagation. It would appear that a race of bees should be left largely to their own development except to weed out the poorest queens as they appear. Only Nature can make the improvements, and, therefore, Nature should be allowed as free a hand as is possible to give.

And that is what I claim for the swarming system described somewhat briefly on page 504—merely Nature's way. I doubt that it is the real nature of the bees to wish to depart for "the woods," except that the surplus of queens makes it appear to the bees as necessary. I could produce a long line of evidence to bear out this statement, and may do so at a more favorable time for it.

When the bees and queen are placed in a box and retained in the apiary, many of the bees will begin to desert and go back into the original hive again, and this is kept up, more or less, for several days, according to the agreeableness of the conditions which existed in the old hive from which the swarm embarked. If the old hive was crowded so that the bees were obliged to cluster outside, very few will return; but if there was plenty of inside space, a large portion may return. In determining the truth along this line, the laying capacity of the queen must be considered, because bees are loth to cast their lot with a queen which may soon fail. On several occasions I have known bees which clustered outside the hive for several days to swarm without queen-cells, and, farther than that, without a queen, and go a mile or more from the apiary, settle on a tree, and remain clustered there for days, until old age or starvation brought them to an end. Such circumstances would not occur with large hives.

Fifteen years ago contraction of hives was prevalent to secure more compact storage and more rapid finishing of the honey-combs. At present there is a wholesale movement toward an opposite extreme to prevent swarming, so that the business may be pursued and managed on broader lines. If the results of contraction were worth working for once, they must be of some value still.

There are few fruit-growers but that will admit that the proper pruning of trees, thinning of the fruit, and enrichment of the soil, will improve the quality of the fruit. This is also a species of contraction. Yet I have known fruit-growers who would leave just as much of the fruit on, provide just the least enrichment of the soil, and bestow as little labor on pruning the trees as the market would admit of. One year the disposal of the fruit may be the result of clever bargaining or the personal bearing and importance of the seller, or a slight scarcity in the market may exist. This will encourage the producer to permit still more "expansion" methods of production. The producer and dealer obtained their profits in the first case, but the consumer was not quite satisfied. Although this dissatisfaction may not produce an audible sound, its effect is reflected back to one dealer and another, so that the producer comes up face against the results the following year, and may be compelled to haul his product home and deposit the same alongside the hog-pen.

When a swarm is hived and there is fear that it may not stay hived, it is customary to give it a frame of brood. Brood will cause the swarm to stay even though they have no queen at all—probably to care for and protect the brood. This is artificial, and not in accordance with Nature's way. The brood being the cause of the swarm's staying in the new hive and new location, we are deceived as to the real value of the queen; for if the queen is poor, and the bees are allowed their liberty, they will mostly return to the hive they came from. The only swarms that it is advisable to hive in a new location are those where the bees all stay. These are the swarms which do the best work—those that can not be induced or driven back to the old hive, and will stay "hived" on a fence-post if their queen is confined there.

Now, we arrive at the kernel of the matter: "The size of the first swarm is varied a great deal by the amount of reverence the bees possess for the old queen." This does not refer to the size of the swarm as it issues from the old hive. It refers to the number of bees that will stay after hiving, and without brood or other inducement. It may have been an induced swarm through lack of ventilation, restriction of the queen's laying space, or an aged queen which should have been replaced the previous season. Then, again, swarms may be delayed by the sudden addition of room for brood or stores, ventilation of the hive, or unfavorable weather, and many bee-keepers destroy the queen-cells one or more times. All these things tend to make swarms artificial and unnatural.

I have the following from a prominent Eastern bee-keeper: "A clustered or clustering swarm is not fussy as to the queen it has, as you know, as 'afterswarms' not infrequently have many virgin queens, and I have seen 'prime' swarms with the old and several young queens."

I have often seen the same. For several years I clipped queens. Several times I saw the old, clipped queen come out and hop about on the ground, until finding that she could not go with the swarm, turned to re-enter the same hive she came out of but a moment before. As soon as she approached the alighting-board she was seized, and although she moved lively to get past the guards, she became balled, and would have been killed had I not opened the hive and rescued her. And the cage I placed her in was balled for one or two days. Is that not somewhat "fussy?" It shows that the young queens which go with a "prime" swarm are not in their intended place, although the bees of the swarm would not object to the young queens. If the swarm is hived, however, and no brood put in, most of the bees would desert and return to the parent hive during the following few days. Such are not natural swarms, because the procedure is not in accordance with what Nature intended. It is two swarms in one.

After we find out a successful method for the treatment of natural swarms, by a slight variation we can manage the freaks. When there is less tampering with the colonies to prevent swarming, there will be less freaks. Freak swarms are apt to be more or less freakish in their work and call for freakish management, which is the complete annihilation of system.

Chatsworth, Calif.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Retail Packages for Honey

At this time of year, and especially *this* year, almost any bee-keeper can dispose of his whole honey crop by retailing amongst his neighbors, or in the nearest town. I have long been an advocate of the house-to-house canvass for selling. Dealers in other lines, such as tea and other groceries, medicines, etc., find it profitable, and honey-producers would do the same. Along comes J. L. Byer, in the Canadian Bee Journal, with the opinions of himself and E. G. Hand on the subject of packages. I quite agree with the idea of pushing *large* packages, in which the honey can granulate and be eaten in that way. Mr. Byer says:

> Only a few days ago we had the pleasure of having Mr. E. G. Hand, of Fenelon Falls, spend a day with us. Among other things discussed at the "convention," the subject of retailing honey came in for due attention. As most of the readers of this journal are aware, Mr Hand is a strenuous advocate of pushing the home market for all it is worth, and has in his own town and vicinity exemplified the fact that with a systematic plan of placing *good* honey before the public, much more honey will be consumed than is the case when ordinary, slipshod methods are followed.
>
> While the experience of extensive retailers seems to prove conclusively that for the town trade it pays to put up honey in glass, yet to the writer's mind it seems doubtful whether this is true as regards the country and village trade. For example, in a village near us of 1200 population, last year, over 2000 pounds of honey was sold in packages of 10 and 5 pound pails. To my knowledge not a single pound was sold in glass, and I can hardly think that so much honey would have been sold had all been put up in 1-pound packages.
>
> On the other hand, it might be argued that some who would pay 15 cents for a single pound would never think of investing 50 cents at one time for a 5-pound pail. In fact, Mr. Hand said he knew of one family who annually bought over 150 pound-bottles, who would never think of buying a 5-pound pail at one time. Personally, I feel inclined to think that if there were no pound packages in sight, more than likely the same family would buy 5-pound pails, and incidentally come to the conclusion that it was much the cheaper way of buying honey.
>
> From the producer's standpoint there is not half as much work in selling honey in pails as there is in putting it up in glass, and in the case of the pails being used the consumers become educated to the use of honey in the granulated form, and it is surprising how many become partial to honey in that condition.
>
> All things considered, while I would not discourage any way of increasing the sale of honey, yet, in my trade, after taking into consideration the demand in my own locality, I feel a bit slow about investing in glass as long as I can sell in tin packages as readily as in the past.

* * *

Honey-Judging Contests

A splendid suggestion for bee-keepers' conventions, and even for fall Fairs, in sections where bees are largely kept, comes from R. F. Holtermann, in Gleanings in Bee Culture—that is, to have a judging contest. He says:

> "Let, say six, samples each of clover, linden and buckwheat honey be taken. Let these be judged by points and score card, and the same be filled out by those competing; then let the same be changed about and judged again, and the prizes be given for those doing the most accurate and correct judging, giving reasons for the decision. An hour or two of the convention time taken up in this way would be an educator of value."

* * *

Getting Bees Off Combs

Some one writing in the Maritime Farmer, advises simply taking extracting supers, bees and all, into the honey-house to allow the bees to fly to the screen-door and be released. What a terrible mess of clustering bees that would make, and where 3000 to 5000 pounds of honey is to be extracted daily for a couple of weeks, is entirely out of the question. With two working at a hive, with a good smoker and brushes, the bees can be shaken and brushed off the combs before the robber-bees have much chance.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Why Women Should Keep Bees

On page 865 were arrayed the possible reasons why women should not keep bees. After having thus presented them, the writer, Mrs. Anna B. Comstock, proceeds thus in Gleanings to present the other side of the question:

> Thus having disposed of all the reasons I can think of why women shouldn't keep bees, I turn gladly to the more interesting reasons of why she should look upon the apiary as one of her legitimate fields of labor. There are so many reasons for this that I could not enumerate them even if a complete number of "Bee Gleanings" were given me for the purpose. So I shall speak of just a few of the more cogent reasons. I should put first of all, and as embracing all other reasons, that bee-keeping may be an interesting avocation which may be carried on coincidentally with other employment; it is an interesting study in natural history; it cultivates calmness in spirit; self-control and patience; it is "a heap" of fun; incidentally it may supply the home table with a real luxury; and it may add a very considerable amount to the woman's spending money. It also may be carried on as a regular business, and be made to support a family.
>
> But it is as an avocation that I am especially interested in the apiary. Any woman who keeps house needs an avocation which shall take her mind and attention completely off her household cares at times. There is something about the daily routine of housekeeping that wears the mind and body full of ruts, even in the case of those who love to do housework better than anything else. Talk about the servant question? It is not the servant question; it is the housework question. If some means could be devised by which housework could be performed with inspiration, zeal, and enthusiasm, the servant problem would solve itself; but this ideal way of doing housework can be carried on only when the spirit is freed from the sense of eternal drudgery. I am not a wizard to bring about this change; but I know one step toward it, and that is the establishment of some permanent interest for women that will pull her out of the ruts and give her body and mind a complete change and rest. Embroidery, lacemaking, weaving, painting, and several other like occupations, may serve this purpose in a measure, and perhaps if carried on in the right way might achieve more in this line than they do at present. But these are all indoor occupations; and what a woman needs is something to take her out-of-doors where she can have fresh air. The excess perspiration induced by the cook-stove is weakening; but the honest sweat called forth in the open air by an application of generous sunshine, is a source of health and strength.
>
> Bee-keeping is one of the best of these life-saving, nerve-healing avocations; it takes the mind from household cares as completely as would a trip to Europe, for one can not work with bees and think of anything else. Some of the attributes which make bee-keeping an interesting avocation I will mention: First of all, the bees are such wonderful little creatures, and so far beyond our comprehension, that they have for us always the fascination of an unsolved problem. I never pass our hives without mentally asking, "Well, you dear little rascals, what will you do next?" The bees are of particular interest to woman for several reasons: If she likes good housekeeping, then the bee is a model; if she likes a woman of business, again is the bee a shining light; if she is interested in the care of the young, then is the bee-nurse an example of perfection; if she believes in the political rights of woman, she will find the highest feminine political wisdom in the constitution of the bee-commune. In fact, it is only as a wife that the bee is a little too casual to pose as an ideal, although as a widow she is certainly remarkable, and perhaps even notorious.
>
> Another phase which makes bee-keeping a pleasing avocation for women, is that much of the work is interesting and attractive. I never sit down to the "job" of folding sections and putting in starters without experiencing joy at the prettiness of the work. And if there is any higher artistic happiness than comes from cleaning up a section holding a pound of well-capped amber honey and putting the same in a dainty carton for market, then I have never experienced it; and the making of pictures has been one of my regular vocations. By the way, woman has never used her artistic talent rightly in this matter of cartons. Each woman bee-keeper ought to make her own color design for her carton, thus securing something so individual and attractive as to catch at once the eye of the consumer.
>
> As a means of cultivating calmness, patience and self-control, the bee is a well-recognized factor. Bees can be, and often are, profoundly exasperating, and yet how worse than futile it is to evince that exasperation by word or movement. No creature reacts quicker against irritation than does the bee. She can not be kicked nor spanked; and if we smoke her too much, we ourselves are the losers. There is only one way to manage exasperation with bees, and that is to control it, and this makes the apiary a means of grace.
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> The money-making side of bee-keeping is a very important phase in arousing and continuing the woman's interest in her work. I think woman is by birth and training a natural gambler, and the uncertainties of the nectar supply, and of the honey market, add to rather than detract from her interest in her apiary. I know of several women who have made comfortable incomes and supported their families by bee-keeping; but, as yet, I think such instances are few. However, I believe there are a large number of women who have added a goodly sum yearly to their amount of spending money, and have found the work a joy instead of drudgery. Personally, I have had very little experience with

the commercial side of bee-keeping. Once when our maddeningly successful apiary grew to 40 hives when we did not want more than a dozen at most, and the neighborhood was surfeited with our bounty, we were "just naturally" obliged to sell honey. We enjoyed greatly getting the product ready for market, and were somewhat surprised that so much fun could be turned into ready cash. As a matter of fact, both my husband and myself have absorbing vocations and avocations in plenty, so that our sole reason for keeping bees is just because we love the little creatures, and find them so interesting that we would not feel that home was really home without them; the sight of our busy little co-workers adds daily to our psychic income. We are so very busy that we have very little time to spend with them, and we have finally formulated our ideals for our own bee-keeping, and that is to keep bees for honey and for "fun." We shall have plenty of honey for our own table, and just enough to bestow on the neighbors so they will not get tired of it; and fun enough to season life with an out-of-doors interest, and thefeeling that no summer day is likely to pass without a surprise.

ANNA B. COMSTOCK.

Southern
Beedom

Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

BUSY THE BEE-MAN in his cozy-kept shop,
Where he whiles away his lazy hours;
Meal-bells may sound, but no time to stop,
But prepare for the yield from Nature's flowers;
And be gathered by his pets from glen and field—
During another season's bountiful yield.

Preparations for Next Season

These should begin early—as soon as the present season's crop is off. First, the bees should be put in trim for winter, and here is where many bee-keepers stop. But keep on! Get your next year's supplies; secure the usual early-order discounts; use your idle moments during fall and winter, and nail them up ready for next year. You'll make a double gain—get the discounts, and get the honey when it comes.

Bulk Comb Honey

This is now the chief product of Texas apiaries, and the demand far exceeds the supply each year; while extracted honey goes begging. It is no trick to sell bulk comb honey, and the price obtained is from 3 to 4 cents more than for extracted. A third of the contents of the cans packed with this comb honey is extracted, hence it must be remembered that comb-honey prices are obtained for it, or if the original price of the extracted honey is subtracted, a much higher price is obtained for the comb honey.

Bulk comb has proven the most profitable in the South.

Mr. J. E. Chambers

Mr. J. E. Chambers, of Concho Co., Tex., owned his first bees in Bee County in 1888, and, although he knew nothing of practical bee-keeping, he was much interested in bees. In 1895 he began modern bee-keeping, and in partnership with Mr. Mann, of Menardville, owned some 80 colonies. That year proving a poor one, he was compelled to sell his interest; but he had been too thoroughly inoculated with bee-fever for it to be easily eradicated, and in 1898 he began bee-keeping again. He had no means to start on, but most thoroughly believed in the saying, "Where there's a will there's a way." During that year he cut 30 bee-trees in the woods and brought the bees home. He was not able to buy hives or fixtures, but, "Necessity is the mother of invention," and lots of other things, so he made his own hives and frames, and took, during the following year, $260 worth of honey. From that beginning to this day he has devoted all his attention to bees, not trying to do anything else, and he has studied it with that mystical exaltation that forgets itself in the pursuit. His enthusiasm has never waned in the least, and he can yet work from morning till night without realizing the flight of time. If he could have had an education, he would perhaps have been a journalist, but without that very necessary equipment, he could not hope to succeed in that field; and among all the other pursuits he would yet choose bee-keeping as the one best suited to his taste, and in conformity to his disposition and temperament.

J. E. CHAMBERS AND HELPERS

During his first years of bee-keeping he kept well within the beaten track, but that was not his disposition. He soon began to branch out and try things that the wise ones said could not be done, and were all wrong, but he has ever had a contempt for all things orthodox; not that some of these things are not true and all right, but the term implies "fogyism;" at least it seems that way to him. One of the first things he found out through experimenting, was that the "standard hive," so-called, did not suit his ideas or method of working. This led him to further experimenting, with the result that he finally adopted his present hive, 16¼ inches long, 14½ wide, and 6 deep. He has now been using this hive for over 5 years, and finds it all he desires. But were he to start over again, he would make a change in the frames to the Hoffman, which he considers the best made at the present time; but he knows of a frame that would suit his style of manipulation better.

During the last 5 years he has used the Carniolan bees in all his honey-yards. He considers them the best, all things considered. The imported stock, or home-bred queens from the imported, are the ones he has found to average the greatest yields of honey. The swarming disposition is the only drawback, but that does not give him as much uneasiness as it formerly did. His non-swarming device has effectually done away with all that trouble, and he is now able to control all swarming and keep the full force together. During the present year he has used it on a number of colonies with the most gratifying success, requeening and keeping down all swarming with the utmost certainty and ease.

Since starting in bee-keeping he has bought over $800 worth of the best factory-made white-pine hives, and now owns nearly 300 colonies of bees and 200 nuclei, with extracting houses and all necessary supplies, together with his home, valued at $1000—in all, over $3000 worth of stuff. During all the time he has been thus engaged he has never worked at anything else, or for any one else, and what little he has accomplished has been done with the help of the little bees.

A FRIEND.

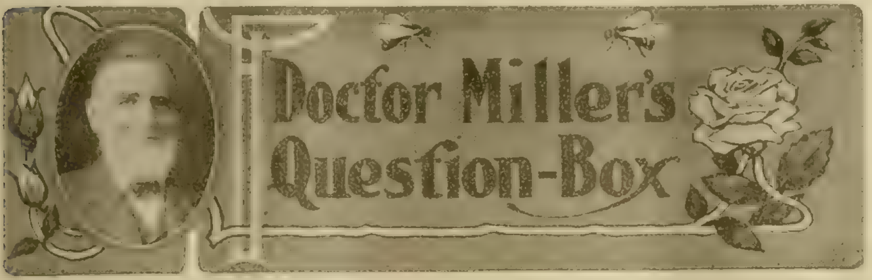
It was somewhat difficult to obtain a photograph of Mr. Chambers, but after insisting upon it, the picture of himself and his young helpers came with the letter below, from which it will be seen that Mr. Chambers is a modest man, such as generally attend to their own business. His cell-building arrangement and non-swarming management have been mentioned in some of the bee-papers, and we hope that Mr. Chambers will find time to prepare several articles for us soon, which he has promised to do. He has several items of interest which will be given from time to time later. Here is the letter:

FRIEND SCHOLL:—Your letter is received. I regret that I did not get it sooner; however, I have no recent photograph of myself, but to satisfy you I will have some taken, and will send one. I have always had a distaste against having many of these things struck off.

I expect to be in San Antonio during the meeting of the National Association, Nov. 8, 9, and 10.

Bees did well for me the past season, many nuclei of 6 and 8 combs building up to full colonies, and giving a surplus of 50 pounds of fine white honey during the 14 days of sumac flow. These were Carniolans, daughters of imported queens. I have never been able to accomplish such results with any other race of bees. Do you wonder that I am partial to this great race. Full colonies stored over 6 supers of 30 pounds each to the colony. The past year has been bad for swarming, but I have not had any more trouble with the Carniolans than with other races. I have gotten past the fear of swarming.

I have just about finished taking off my honey. The crop is light—about 17,000 pounds from over 275 colonies, spring count. I now have over 400 colonies, all in excellent condition for winter. J. E. CHAMBERS.



Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Sugar Syrup for Winter Stores

Will bees live on sugar syrup through the winter without any bee-bread? If not, what can be given to them as a substitute for bee-bread? My bees have no honey and no bee-bread, and I want to save them if there is any chance. MISSOURI.

ANSWER.—Yes, bees will winter all right on sugar syrup without any pollen; and some advise wintering thus. They will not rear young bees in the spring, however, without pollen. But the likelihood is that they have enough pollen with which to make a beginning in spring, and they begin bringing in pollen very early. In case you think they need a substitute for pollen in the spring, you can feed ground grain of almost any kind. Some springs I have fed several bushels of corn and oats ground together. Set it in a sunny place on days when bees are flying. But you can't get them to take it if they can get natural pollen.

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Best Handling of Unfinished Sections

The close of that portion of our honey season in which bees store marketable honey, found in my yard quite a number of unfinished sections. I simply put them back and they are now well filled, but with honey that is unfit for use. I wish to pursue that course which will give my bees the greatest advantage from this honey. Should I leave the supers containing these sections on through the winter? If not, how shall I keep the honey in sections taken off? I wish to handle the sections in such a way as not to lose them. How shall I do this? TEXAS.

ANSWER.—So far as the bees are concerned, it might be all right to leave the sections just where they are. But it would be rough on the sections if you are to make any future use of them, as I understand you intend. You can extract the honey from the sections, letting the bees clean them up afterward, and then feed the honey back to the bees, but it is a fussy job to extract from sections. An easier way is to take the sections off and let the bees rob out all the honey. The danger in that case is that the bees will tear to pieces the combs in the sections. There are two ways to avoid this. One is to give the bees such full chance that they will not want to tear them, spreading out the supers of sections so that all the bees can get at all parts easily. But to do this there must be a sufficient number of sections in proportion to the number of bees. If you set out a single super for 100 colonies, you will be likely to find the comb chewed up into little bits. If there is a super for each colony, and each super fully exposed, there will be little danger. I don't know just where to draw the line, but probably if you have a super for each 2 or 3 colonies there will be little or no tearing.

The other way is to go to the other extreme, and allow very few bees at a time to get at the sections; and this is the better way where the number of sections is small compared with the number of bees. Farther north it might not work so late as this, but as you are in latitude about 31 degrees, the bees will have plenty of warm days for it. Pile the supers in piles, allowing an opening at bottom, and also at top, so that only one bee can pass at a time. If there are enough supers in the pile, allow another entrance for about each 5 supers, by pushing a super to one side enough to make a small entrance at one corner.

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Making Queen or Royal Jelly

How can I make queen jelly? If I can not make it myself where can I get it? MASSACHUSETTS.

ANSWER.—You can't make queen jelly, or as it is generally called, royal jelly. Neither can any other man, not even President Roosevelt. I never knew of any being offered for sale, but you can easily get the bees to make it for you. Take the queen away from a colony next summer, and the bees will start to rear several young queens in queen-cells that you will easily distinguish as being larger than the other cells. In these queen-cells they will put quite a quantity of food for the young queens. In each cell there may be as much as the size of a pea or more. It is of the consistency of cream, varying from the thinnest to the thickest of cream as time advances, and when a young queen emerges from the cell there is generally left at the bottom of the cell a surplus of food that has dried down to the consistency of thick jelly. But the only way you can get this royal jelly is to get the bees to make it.

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Wintering Bees in a Cave or Cellar—Spring Introduction of Queens

1. Is it safe or proper to put bees in a cave or outdoor cellar where I have a few potatoes?

2. Is it better to leave them on the bee-bench and cover with a large box? I think they have plenty of honey to winter on. I would like to winter them, as there are not many bees in this county.

3. What is the best time in the spring to introduce Italian queens? NEBRASKA.

ANSWERS.—1 and 2. As you are in about latitude 42 north, it will most likely be better to winter your bees inside, although in a sheltered place they might do very well covered as you mention. Potatoes in the cellar would not be likely to do any harm unless a lot of them were rotten, and of course that ought not to be allowed for other reasons. In a cellar warm enough to keep potatoes without freezing, as few as 2 colonies ought not to do very badly. You speak of a cave, and if it is fairly dry, and sufficiently underground so that the temperature is fairly even, at somewhere in the neighborhood of 45 degrees, it ought to answer. Between that and the cellar, the question will very likely be as to which is warmer.

3. That depends somewhat upon circumstances. To introduce a queen early in the season is likely to interfere with the strength of the colony more than if the introduction occurs toward the close of the harvest; and, besides, queens cost more very early. On the other hand, if you want to breed from your new stock, you would gain in time by getting a queen early. So, in your case, it may be better to get a queen as early as you can in June.

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Shipping Bees by Freight

Do you consider it safe to ship bees by freight at this time, or a little later, from Illinois or Ohio? Do you know what the railroads charge per hundredweight? MASSACHUSETTS.

ANSWER.—There is no better time to ship bees in the year, unless it should be when the temperature is about the same in the spring, for in the spring the combs are not so heavy with honey. On the other hand, there is danger of interfering with brood-rearing in the spring. Later in the fall and winter, when the cold is severe, there is more danger of combs breaking down, because brittle with the cold. I don't know what freight-rates are; there are a thousand different rates, depending upon the different points of shipment and destination; and these you can get by applying to the railroads in question. You speak of sending by freight, but in many places you can send bees by freight only in car-lots. Indeed, unless there has been a change through a large part of the West, if not in the East, the only way to ship bees on railroads is by express, unless you wish to pay for a whole car.

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A Two-Story Colony—Ripe Honey

1. We put an extra hive over a colony in July without putting on a queen-excluder, and we find now that the queen has gone "upstairs," and consequently there are eggs and brood in both hives. What is the prescription in that case? There appears to be lots of bees, but it would hardly seem probable to a neophyte that one queen could run two establishments. Shall we try to get them back in one hive?

2. When honey is sealed and capped over by the bees, is it ripe and ready to take off? If not, how is one to know? F. E. K.

ANSWERS.—1. The neophyte who should conclude that a queen could not run two establishments, or at least an establishment occupying two stories, has a rather limited view of the capability of a 20th century queen. It is morally certain that there is only one queen in the hive, and the proper prescription is now to reduce to one story. By the time this reaches you it is not likely that there is any brood present, unless it be a little sealed brood. At any rate, here is what you are to do: Make an investigation of the upper story, and if you find it well stocked with full frames of honey, very likely it will be well to put it on the bottom-board in place of the lower story. At any rate, you are to put into the lower story all the frames containing brood (if there be any brood), and fill up with the heaviest frames of honey to be found in either story. So over this the other story containing the remainder of the frames, together with their adhering bees. Lift out one of the frames and brush back into the hive all the bees from it. Do the same with the rest of the frames and then put on the cover.

An hour later, or the next day, you will find the bees all down in the lower story, when yon can remove the empty upper story. Whatever frames of honey you take away will come in handy next spring to give the bees in place of combs they have emptied. Better keep them in the cellar, or somewhere where they will not freeze.

2. As a rule, when honey is sealed it is ripe, and it isn't ripe till it is sealed. That's the rule, and if you follow it in taking off honey all the mistakes you make will never send you to the penitentiary. As with most rules, there are exceptions. The bees may seal up honey before it is ripe, and they may leave it unsealed after it is ripe. You can tell by seeing whether the honey is thick or thin. If it's thick, call it ripe. But the exceptions are so few that in actual practise I never paid any attention to them, merely counting all honey ready to take off if sealed.

◆

Robbers or Young Bees Playing?

On page 219 of "Forty Years Among the Bees," I find this sentence:

"I think I can tell by carefully looking at bees when flying with unusual commotion at the entrance of a hive whether it is a case of robbing or bees at play, but I am not sure."

Knowing that it is not possible that a man who has kept bees as long as you have should have failed to notice that playing bees always keep their heads toward the front of the hive in all of their manuuvers, I wondered why you did not mention this fact when writing on this subject. Time and again I have had persons come to me in an excited way and tell me that the bees were swarming. I would hasten to the yard only to find playing bees in front of one or more colonies, all with their heads toward the entrances of the hives. I have never mistaken a case of this kind for a case of robbing. In cases of robbing there is not the quiet and orderly deportment of these young bees, and there is a greater number of bees right at the entrance of the hives, and generally a little fighting has begun.

Don't make the mistake of supposing that I have written anything for your enlightenment. There are things which speak as plainly as some words do, but do not convey the same meaning to others. I have written with a view to incite the beginner in bee-keeping to become a careful observer.

IOWA.

ANSWER.—The incompleteness of your quotation gives a somewhat wrong impression. As you give it, the meaning seems to be that I am not sure whether I can tell playing from robbing. The correct meaning is given by finishing the sentence as it is in the book, the last part of the sentence being, "I am not sure I could tell some one else the difference in appearance." Yet that is not a very great matter; what we are both at is to tell the beginner how he is to distinguish between robbing and playing. You are quite right in the general statement that playing bees fly with their heads toward the hives; robbers are not as quiet and orderly in their behavior as playing young bees, and generally a little fighting has begun where there is robbing. And you and I can tell pretty well by those marks, as well as by the other marks in "Forty Years." Yet are you sure a beginner who has been told these things can tell whether it's robbing or playing when he for the first time sees a case of either? For you have never seen *some* of the playing bees with their heads away from the entrance, and *some* robber bees flying with their heads toward the entrance? And when the beginner sees his first case of playing, how is he to know that the bees are any more quiet and orderly than when they are robbing? What looks quiet and orderly to you looks confusion to him, seeing he has never seen a case of robbing. And, of course, you know that often there is no fighting when robbing is going on. So you see how difficult it is, sometimes, to tell another how to see what looks so very clear to you. Besides, I have seen cases where I had to study no little time to decide whether there was robbing or not.

All this does not excuse any man pretending to write about the matter from leaving out one of the most prominent features in diagnosing; and I thank you for calling attention to the matter. At the same time, let us make an amendment by saying that when bees are playing, a large part of them will be seen flying backwards—that is, they will be flying away *from* the entrance with their heads pointing *toward* the entrance.

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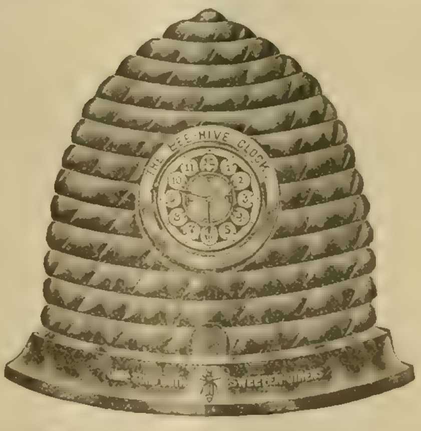

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What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

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CONVENTION NOTICES.

Illinois.—The 16th annual session of the Illinois State Bee-Keepers' Association will be held in the Supreme Court Room in the State House, on Tuesday and Wednesday, Nov. 20 and 21, 1906. Railroad rates to annual sessions of the I.O.O.F. at Springfield, can be used by bee-keepers also as follows: An open rate of one fare plus 25 cents for the round trip to Springfield and return. This rate can be secured by any one desiring to come to Springfield on the date of ticket sale, the open rate having been made by all lines in the Central and Western Passenger Associations. Tickets can be purchased on Nov. 18, 19, 20 and 21, but must be used on the day of purchase. The return limit on tickets is Nov. 24.

Hotel rates, for board and lodging, $1.25 and upward. We expect the largest meeting the Association has ever had, as its membership is larger than ever before, and, furthermore, we expect to have with us Pres. C. P. Dadant, of the National; Pres. George W. York, of the Chicago-Northwestern; Pres. J. E. Johnson, of the Western Illinois; General Manager N. E. France, of the National; and R. A. Holekamp, Secretary of the Missouri State Bee-Keepers' Association. Let every member of our Association make an effort to be present, and bring a neighbor bee-keeper with him, assured of a good meeting if you will help to make it such. (Bring your wife, too.) JAS. A. STONE, Sec.

R. R. 4, Springfield, Ill.

Chicago-Northwestern.—The Executive Committee of the Chicago-Northwestern Bee-Keepers' Association take great pleasure in making the following announcement:

Through the kindness of friends it is possible to hold the next convention of our Association in the fine hall known as "Brunt Hall," in the Bush Temple of Music, corner of Chicago Avenue and Clark Street, Chicago. This is the same hall where the National Association met last December. Arrangements have been made with the restaurant in the basement to serve good meals at very reasonable rates. The Revere House will lodge bee-keepers at their usual low rates. This hotel is at the corner of North Clark and Michigan Streets.

Dr. C. C. Miller writes: "I don't know how much I can do toward making or marring the convention, but, Providence permitting, I'll be there."

N. E. France says: "So far as I know now, I can come."

C. P. Dadant writes: "I promise to attend your convention if possible."

Let us have a full attendance of all the bee-people (ladies and gentlemen) within reach of Chicago. Come and see the great International Live Stock Exposition, and spend part of your time at the bee-keepers' convention.

The meetings will be as follows: Wednesday, Dec. 5, 10 a.m. to 12 m; 2 p.m. to 5:30 p.m.; and 7 p.m to 9:30 p.m. Thursday, Dec. 6, 9 a.m. to 12 m.; and 2 p.m. to 4 p.m.

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Effective November 1, 1906, and until otherwise advised, the local passenger fares between all stations on the Nickel Plate Road are reduced from former rates charged. The reduced fares from Chicago to principal points are as follows:

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Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

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Honey as a Health Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey the more honey they will buy. Prices: Sample copy for 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed **free** at the bottom of the front page on all orders for 100 or more copies.

Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

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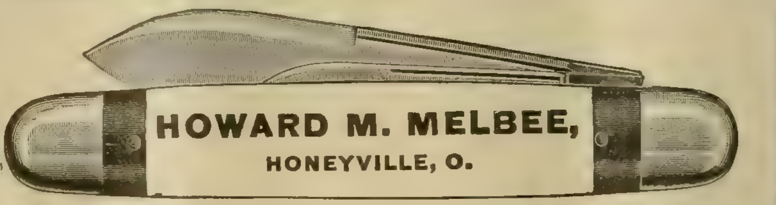

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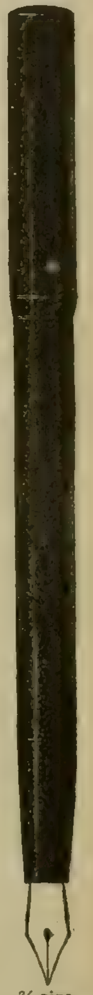

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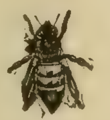

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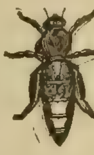

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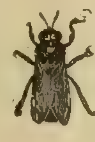

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Honey and Beeswax

Chicago, Oct. 19.—Market is practically bare of honey of all kinds. Choice white comb brings 15@16c, with off grades 1@3c less. Extracted, 7@8c for white; amber, 6½@7½c; buckwheat, 6@6½c. Beeswax selling upon arrival at 30c. R. A. Burnett & Co.

Denver, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
The Colo. Honey-Producers' Assn.

Cincinnati, Oct. 20.—The demand for comb honey is good. No. 1, white, brings 14½c wholesale, and 16c retail, by the case. Off grades less from 2@3c per pound. White clover extracted brings in barrels, 8c per pound; in cans, 8½c; amber grades, light, 6c in barrels; dark, 5½c in barrels; in cans, ½c per pound more. Beeswax, 30c. C. H. W. Weber.

Philadelphia, Oct. 22—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last 10 days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission. Wm. A. Selser.

New York, Oct. 9.—The demand for comb honey is very good, especially for fancy stock, and arrivals are now quite heavy. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12@13c; buckwheat at 11c per pound. Extracted is in good demand and prices are somewhat firmer. We quote California white at 7½c; light amber at 6½@7c, and amber at 6c per pound. Southern honey in half-barrels in good demand and finding ready sale at from 55@65c per gallon, according to quality. Beeswax is somewhat weaker, and 30c is about top price.
Hildreth & Segelken.

Kansas City, Oct. 9.—The demand for both extracted and comb honey continues good; the supply is light. We quote No. 1, white comb, 24-section cases, per case, $3; No. 2, $2.75 Extracted, white, in cans, 7 cents; amber, 6@6½c. Beeswax, 25c. C. C. Clemons & Co.

Cincinnati, Nov. 3.—The honey market is rather quiet at this date, owing to the market being flooded with comb honey; selling slowly at from 14@16c. Extracted amber honey sells at 5½@6½c. White and fancy grades find sale at from 7½@8½c. There is not so much moving as one might be led to believe. Beeswax is dragging at 29@30c for choice yellow.
The Fred W. Muth Co.

Indianapolis, Sept. 29.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Toledo, Oct. 8.—The market on comb honey remains firm. The demand is fair, and the receipts equal to the demand. Fancy white comb honey in a retail way brings 15@16c, with very little demand for low grades Extracted white clover in barrels brings 7½@8½c; cans the same. Beeswax, 26@28c. Griggs Bros.

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

Will buy or sell you . . HONEY If you have any to sell, . . . mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

For Rent on Shares
275 Colonies of **BEES** in 10-frame Langstroth hives. These are the bees The Rambler run 2 years.
J. C. McCUBBIN,
43A3t Reedley, Fresno Co., Calif.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 South Water St. Chicago, Ill.

QUOTE US We Buy Car-loads of
Extracted Honey!
THE FRED W. MUTH CO., 51 Walnut St., Cincinnati. O.
41Atf Please mention the Bee Journal.

Cash for Beeswax
Till further notice, **30c cash** paid for pure, yellow beeswax, delivered here.
Frank G. Clark, 147 E. Kinzie St. Chicago, Ill.
Mention Bee Journal when writing.

WANTED TO BUY AT TOP PRICES
WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
——Catalog Free——
29Atf 1004 East Wash. Street, INDIANAPOLIS, IND.

HONEY! HONEY! HONEY!

Have you any to sell? If so, see us before selling. We pay highest Market Price for both Comb and Extracted Honey—also Beeswax. . . .

GRIGGS BROTHERS, 521 Monroe Street, Toledo, Ohio
Mention Bee Journal when writing.

HONEY

HONEY

HONEY

Instead of having honey offered us by bee-keepers this season, we have had enquiries for good honey from nearly every quarter. We have secured an unusually fine lot of

WATER-WHITE ALFALFA HONEY

packed in 60-pound cans, two in a case. We offer the same at the following prices:

One 60-pound can	8½ cents per pound
Two 60 pound cans	8 " "
Ten 60-pound cans or more	7½ " "

This honey is giving entire satisfaction and is selling where we have previously furnished White Clover. Sample on application.

DADANT & SONS, HAMILTON, ILL.

(We are giving liberal discounts on **Bee-Supplies** now.)

HONEY

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN

265 & 267 Greenwich Street - NEW YORK, N. Y.

30Atf

AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., NOV. 15, 1906 No. 46

MASSACHUSETTS AGRICULTURAL COLLEGE

Apiary of R. E. Merrill, of Muncy, Pa.

Apiary of H. A. Rushton, of Jackson, Mich.
(See page 947)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union. 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

Advertising Rate, per Agate Line, 10c.

14 lines make one inch.
Nothing less than ½ inch accepted.

Time Discounts.	Space Discounts.
4 times.... 5 per cent	100 lines... 5 per cent
13 " ....10 "	500 " ...10 "
26 " ....20 "	1000 " ...20 "
52 " ....30 "	2000 " ...30 "

These rates are subject to either time or space discounts, at choice, but not both.

Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. France, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Postal-Card.—We have secured a somewhat comic Souvenir Postal Card for bee-keepers, printed in 4 colors—red, yellow, blue and black. At the left end the following are pictured: An old-fashioned straw bee-hive with bees circling around and above it; a sad-eyed bear with his "hands" over his sweet-loving heart; a jar and a section of honey; also a spoon with a card attached, reading, "Come let us spoon awhile." At the bottom of the card, and to the right, are these words: "Eat thou honey because it is good."—Prov. 24:13. At the left of the bear's head, and encircled with bees, is this sentence: "I can not BEAR to lose you;" and at the top, and to the right of the bear's head and bees, is this stanza:

O won't you BEE my HONEY,
And cheer this lonely heart?
For I would hug you all the time,
And we would never part.

Prices, postpaid: 3 cards for 10 cents (stamps or silver), or free with the American Bee Journal one year at $1.00; 10 for 25 cents; or 25 for 50 cents. There is a blank space on the card about 2 by 2½ inches in size for writing. Send all orders to the office of the American Bee Journal.

"It is continuous advertising that impresses the public with the stability of a firm."

Special Bargains

in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.

JOHN DOLL & SON, Proprietors,

Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

Dittmer's Foundation

is the best foundation for you to use, because it is tough, transparent, will not sag, and has the odor of pure beeswax.

WORKING WAX FOR CASH A SPECIALTY

This is the cheapest way for you to secure your foundation.

BEESWAX ALWAYS WANTED

Our warehouse is well filled with all kinds of **Bee-Keepers' Supplies.**
5 percent Discount during November.

GUS DITTMER, Augusta, Wisconsin

If You Want to Keep Posted upon the

GREATEST ✣ POLITICAL ✣ QUESTION

of the day, you must read

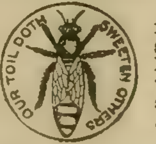
The Defender

the National Exponent of the Prohibition Movement. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 West 23rd Street, NEW YORK, N. Y.

35Atf Please mention the Bee Journal.

Queen-Button for Bee-Folks


OUR TOIL DOTH SWEETEN OTHERS

This is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.

The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or six for 25c. The American Bee Journal one year and 4 buttons for $1.10. Address all orders to

GEORGE W. YORK & CO.
334 Dearborn Street, - CHICAGO, ILL.

Wisconsin Basswood Sections

And Prompt Shipments

Is what we are making for our customers.

— DOVETAILED HIVES AND SHIPPING-CASES —

We carry a full line of SUPPLIES. Ask for Catalog.

THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

Langstroth on the Honey-Bee

Revised by Dadant—Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroughly explained, so that by following the instructions of this book one cannot fail to be wonderfully helped on the way to success with bees.

The book we mail for $1.20, or club it with the American Bee Journal for one year—both for $2.00; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
334 Dearborn Street, CHICAGO, ILL

Big Profits in Capons

CAPON
TOOLS

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.
Gape Worm Extractor 25c
Poultry Marker.......25c
French Killing Knife 50c
Capon Book Free.

G. P. Pilling & Son, Philadelphia, Pa.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,
—FOR HIS—
"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Mention Bee Journal when writing.

Passenger Fares Reduced Over the Nickel Plate Road

Effective November 1, 1906, and until otherwise advised, the local passenger fares between all stations on the Nickel Plate Road are reduced from former rates charged. The reduced fares from Chicago to principal points are as follows:

Chicago to Buffalo, first class. $10.50; Erie, $8.55; Cleveland, $6.75; Bellevue, $6 35; Fostoria, $5.70; Findlay, $5.50; Fort Wayne, $3.75.

Second-class, Chicago to Buffalo, $9.50. Corresponding reductions apply to all other intermediate points, including points on connecting lines, as also to many points beyond Buffalo reached by our through car lines.

City Ticket Office, 107 Adams Street, Auditorium Annex, Chicago, and stations at La Salle Street, 31st Street, Englewood, and Grand Crossing. Telephones Central 2057 and 6172.

31—45A4t

Please mention Bee Journal when writing advertisers.

"If Goods are wanted Quick, send to Pouder"

BEE-SUPPLIES

Root's Goods at Root's Prices

Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. .·. .·. .·. **Catalog Free.**

BEESWAX WANTED

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight, always being sure to attach your name to the package. My large illustrated catalog is free. I shall be glad to send it to you.

EARLY ORDER DISCOUNT During November I will offer a discount of 5 percent on Supplies for next season's use. In December the discount will be 4 percent. Cash must accompany order.

WALTER S. POUDER
513-515 Massachusetts Ave., - INDIANAPOLIS, IND.

Mention Bee Journal when writing.

Fire Sale of Bee and Poultry Supplies

Come or send and **Save 25 to 50 Percent** on slightly damaged goods.

Lewis Goods at 5 percent Discount DURING NOVEMBER, EXCEPT ON HONEY-PACKAGES.

Any bee-keeper living within a reasonable distance of Chicago can make money on any Supplies he may need now or later, by coming to Chicago and looking over the goods that we selected out after the fire. Better order quick, if you want any of the goods we are selling at 25 to 50 percent reduction.

☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**

Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.

H. M. ARND, Proprietor, York Honey and Bee-Supply Co. (Not Inc.)
Long Distance Telephone, North 1559. 191 AND 193 SUPERIOR ST. CHICAGO, ILL.
(Three blocks north and one block east of our old location.)

Our Early-Order Discounts on

BEE-SUPPLIES

are now in effect. We furnish EVERYTHING needed in practical Bee-Culture, at lowest prices.

We make the best-finished and substantial

SHIPPING-CASES

in free Shipping-Crates.

Our HONEY-EXTRACTORS

are not excelled for durability, fine workmanship, and practical utility.

Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.

Satisfaction guaranteed, or money back. Address,

KRETCHMER MFG. CO., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.
Trester Supply Co., 103 S. 11th Street, Lincoln, Neb.
Shugart-Ouran Seed Co., Council Bluffs, Iowa.

Catalogs issued in English or German.

Mention Bee Journal when writing.

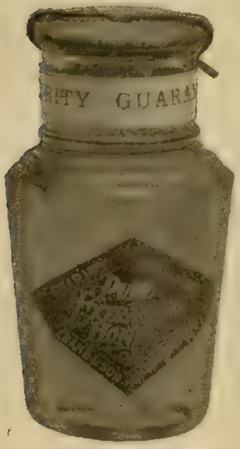
Some Styles of Honey-Jars

Now is the time to make ready for Thanksgiving and Christmas trade. Honey at this time of year always sells best. Put up your Extracted Honey in one of the attractive Jars illustrated on this page, label it nicely, and you will be surprised at the ease you can sell it and the prices obtainable.

½-lb. Tumblers

HALF-POUND TUMBLERS

There seems to be an increasing demand for a cheap tumbler to put up a half-pound of honey to retail at 10 cents. We have secured a stock of such tumblers at a price which enables us to offer them at $4.50 per barrel of 32 dozen This is less than 1½c apiece. For less than barrel lots we cannot repack them for less than 25c a dozen; or we will put them up 4 dozen to the case with partitions ready to re-ship when filled, at $1 a case; 10 case lots at 95c.



Tip-Top Jars.

TIP-TOP HONEY-JARS

This is a new-style jar sealed with rubber ring under rim of a glass top held securely with spring-top fastener. This fastener is applied to a great variety of bottles and jars used for different purposes. We have selected two styles among them all as being the most suitable for honey. The one and two pound square jars may be had with spring top fastening instead of cork at 75c per gross extra. We can furnish in two sizes.

½-pound, 45c per doz.; gross, $4.50.
1-pound, 50c per doz.; gross, $5.

HERSHISER JARS

These jars were designed for use in the honey exhibit at the Pan-American Exposition in Buffalo, and are very neat and attractive. They have cork-lined aluminum caps which seal them tight. They are made in 4 sizes square and 3 sizes round. Write us for complete prices on this style of jars.

NO. 25 JARS

The illustration to the side does not do justice to this jar. It must be seen to be fully appreciated. We have sold this jar for years and in larger quantities than any other. It is really our standard, and the demand for it is unfailing. Packed in re-shipping cases of 2 dozen each. We are now prepared to offer No. 25 jars in partitioned cases of 2 dozen each, ready to re-ship, when filled, at $1 per case; 10-case lots or over, 95c; 50 case lots at 90c.

Hershiser Jar.

MASON FRUIT-JARS

These are very largely used for canning fruit, and are often used for honey as well. As we buy them by the car-load, we can make the following prices at Medina, all put up complete with porcelain-lined caps and rubbers, in cases of one dozen:

Size.	*Doz.*	*6 doz.*	*12 doz.*
Pint	$0.52	$3.00	$5.75
Quart	0.55	3.10	6.00
½-gal.	0.75	4.10	8.00

Triumph Wrench for Mason Caps, 15c each; by mail, 20c. Ball's Waxed Rings, better than rubbers, 5c dozen; postage, 3c.

LABELS

Don't fail to label your bottles and cans of honey. A good label is a profitable advertising instrument. Don't make the mistake of using a poor label. We are properly equipped to turn out the best work in the shortest time at lowest prices. Write for our label catalog showing 50 styles. We can make special labels for large orders.

No. 25 Jar.

Write Nearest Branch or Agent for Catalog.

Alabama
*Wetumpka....................J. M. Jenkins
Canada
Toronto..................E. Grainger & Co.
California
*Fresno............... Madary Planing Mill
*Los Angeles...........California National Honey-Producers' Association
Colorado
Denver........The L. A. Watkins Mdse. Co.
Fruita......Fruita Fruit and Produce Ass'n
District of Columbia
Washington..............The A. I. Root Co.
Georgia
Savannah.................Howkins & Rush
124 Liberty St.
Illinois
Chicago ....The A. I. Root Co.
144 East Erie Street.
Indiana
Indianapolis................Walter S. Pouder
Evansville ....Vickery Bros.
Iowa
Des Moines ....Joseph Nysewander
Kansas
Augusta ....Carl F. Buck

Mississippi
Brazelia .... George A. Hummer
Massachusetts
Boston......H. H. Jepson. 182 Friend Street
Lyonsville ....W. W. Cary & Son
Maine
Mechanic Falls..........The A. I. Root Co.
Maryland
Baltimore...........Rawlins Implement Co.
Michigan
Bell Branch ....M. H. Hunt & Son
Fremont ....George E. Hilton
Minnesota
St. Paul ....The A. I. Root Co.
1024 Mississippi Street.
Missouri
High Hill .....Jno. Nebel & Son Supply Co.
Springfield ....Springfield Seed Co.
St. Louis.......................Blanke & Hauk
New Mexico
Carlsbad.....................Edward Scoggin
New York
Syracuse ....The A. I. Root Co.
New York City...........The A. I. Root Co.
44 Vesey Street.

Ohio
Columbus Grove ....McAdams Seed Co.
Toledo.........Griggs Bros., 521 Monroe St.
Zanesville ....E. W. Pierce
Cincinnati ....C. H. W. Weber
2146 Central Avenue
Oregon
Portland .... Portland Seed Co.
Pennsylvania
Du Bois....................Prothero & Arnold
Philadelphia.............The A. I. Root Co.
10 Vine Street
Williamsport..................E. E. Pressler
633 Lycoming Street
Texas
Dallas ....Texas Seed and Floral Co.
San Antonio .. .. Udo Toepperwein
Uvalde ....D. M. Edwards
Utah
Ogden .. ..The Superior Honey Co.
Virginia
Spottswood....................W. E. Tribbett

* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

L. L. LANGSTROTH
CHAS. DADANT

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor | CHICAGO, ILL., NOVEMBER 15, 1906 | Vol. XLVI—No. 46

Editorial Notes and Comments

The Demand for Honey

It seems to be increasing, and we believe it would increase much faster if a certain line of advertising were carried on by the National Bee-Keepers' Association. While in a poor honey season the demand may almost equal the supply, in a season like that of 1903 there seems to be an over-supply of honey. But it really is an under-distribution. Large quantities of honey are dumped into a few of the leading markets, then there is a slump in prices, and honey can hardly be given away.

More and more bee-keepers are coming to see that often the most profitable honey market for them lies right near their own homes. This may not be true of those individuals who produce several tons in a season, and even such can dispose of their crop within a few miles of their homes. It will pay to look after that home demand first.

◆

Successful Honey-Marketing

Usually there are are not many royal roads to success in anything. This is surely true of marketing honey, and bee-keepers are slowly finding it out. Superiority of flavor and body count most. Unripe honey will ruin any market in a very short time. Mr. Hutchinson tells something of his own experience in the last Bee-Keepers' Review. It is well worth reproducing, as is often the case with what he says concerning bee-keeping, honey, etc.:

> There is just as much difference between ripe and green buckwheat honey as there is in clover or any kind of honey. Our buckwheat honey was left on the hives until it was all sealed over, and is ripe, rich and smooth—as much different from the strong, rank "green" stuff usually found on the market as can be imagined.
>
> I don't doubt that honey can be *evaporated* artificially, but evaporation is not curing or *ripening*. The bees put nectar through a process that really works a change in its character—in fact, I am coming to believe that the finishing touch is not put on until the combs have received their coat of "varnish" over the cappings. Comb honey removed from the bees as soon as sealed over never has the "finish" of the extracted honey of mine that was left on the hives a month after it was sealed over.
>
> Without the finish of this *real superiority*, it would be impossible to sell honey, as we have been doing, at a cent and a half above the market price. Time and again, this fall, has some man written that our price was too high. "Why, I can buy any quantity of clover honey at 6 and 7 cents delivered," is the way they would write; yet when they received a sample of *our* honey they would plank down the 8½ cents and pay the freight. Do you suppose they would do this if it were not really superior?
>
> The foundation and the corner stone of selling honey above the market price are the production of a superior article. Without this you may just as well send your honey away to some jobber and take what he will give you for it. First, produce a good article—away up—thick, ripe, rich, smooth and irresistible.
>
> Let me give an illustration: I make no effort whatever to retail honey at the house. I scarcely know why; perhaps it is because we don't want to be bothered with people running in at all hours for little dabs of honey. If they *do* come after it, we let them have it, but we take no pains to encourage the habit. Well, one of our married daughters had some of this fine, well-ripened raspberry honey on her table, and a neighbor who was in was given a taste of it. The next day this neighbor's little boy came up with a pail after some of that "splendid honey." Then this neighbor had a neighbor and *she* was given a taste of the honey, and the little boy was sent up again for another pailful for the neighbor. It seems that the man at the neighbor's house was a barber, and he talked about the honey at the shop until the proprietor sent up for a can of it. When it reached the shop every barber had to have a taste, and then every one must have a jar of it, and where this endless chain will end I don't know. All this happened here in Flint, where honey, both comb and extracted, can be bought almost any day at nearly all the groceries. But it seems that the honey is simply irresistible, it will sell itself.
>
> Now, if you wish to be able to sell honey for a cent, or 2 cents, above the market price, produce this kind of honey, and all you have to do is simply to let it stay on the hives until it is *ripe*. If you have so few combs that you are obliged to extract in order to give the bees room, it is not likely that you will produce very much of this high grade honey. You must have plenty of empty combs. If you haven't got them, *get them*; that's the first step.
>
> One other point: Don't let this fine honey stand around in open vessels exposed to the air, and thus lose its delicate aroma—the heart and soul of honey. Strain it right from the extractor and run it into air-tight receptacles at once, and close it up from the air.
>
> After you have produced a crop of this superior honey don't imagine that your work is done. People can't buy it unless they know you have it. You will have to advertise, and advertise liberally at first, and send out samples freely. People prefer to see a sample of the goods before they buy. This will cost something, but, gradually, you will build up a list of customers who will come to you year after year, and they won't ask for samples either. If you say the honey is the same as last year, they will believe you.
>
> Mr. E. D. Townsend has been selling honey in this way for several years, and now finds little need of advertising; in fact, much of his honey was contracted this year before it was off the hives.
>
> The principles of success can be stated in a few words: Produce a big crop of good honey at a low cost, and sell it at a high price. Simple, isn't it? Yet it covers the whole ground.

There is nothing like personal experience, when it comes to showing others how to succeed. Better follow Mr. H.'s advice if *you* want to get ahead in the honey-business.

◆

Uniting Colonies in the Fall

The Bee-Keepers' Review gives the following in its editorial columns concerning fall uniting of bees:

> Often in the fall of the year it is advisable to unite 2 or more colonies into one, and the first question that comes up is, How to avoid fighting among the bees that are put together? As I have never had any trouble from this source, perhaps I can't help much with my advice, but I can tell how I have done the work successfully. Almost invariably have I had all of the bees *queenless* except one colony, and I have piled the hives one above the other for 2 or 3 days, then put the best combs into one hive, and shaken the bees from the

other combs. Often I have hung the combs of bees side by side, mixing them up promiscuously, and have had no quarreling. My bees have always been Italians—remember that.

◆

Superseding—When and By Whom?

Formerly it was perhaps generally held that a queen was at her best during her second season. Nowadays there is a tendency to the belief that her first year is her best. Much depends upon the amount of work a queen has done. When she has laid a certain amount of eggs she is practically old without regard to the number of months or years she may have lived.

The novice who is told that certain bee-keepers believe that a queen's first year is her best year, is very likely to think that those certain bee-keepers certainly replace each queen at the close of her first year. That, by no means, necessarily follows. A very few bee-keepers make a practise of replacing a queen when she is a year old; and for every one of these there are probably 10 who replace her when she is 2 years old; and, again, for every one who replaces a queen when she is 2 years old, 10, if not 100, never replace her at all, leaving the matter entirely in the hands of the bees.

One of the most experienced American bee-keepers puts the matter somewhat in this wise:

"I do not know whether the average queen is at her best in her first or her second year. A good many queens are better in their third year than the average queen in her first year. In any case I believe that, as a rule, the bees can decide better than I when a queen should be superseded, and sometimes they do not even wait for the close of the first year, but supersede a queen when she is only a few weeks old. If, however, I have evidence that a queen is not up to the mark in any way, there is no law to prevent my taking off her head any time."

In deciding the question whether the bee-keeper or the bees shall do the superseding, a very important item that with some turns the scale in favor of taking the superseding into their own hands is the fact that there is less tendency to swarm with a young than with an old queen. An argument on the other side to which is no doubt given all the weight it is entitled to, is the fact that it is much easier to allow the bees to do their own superseding.

So it will be seen that the question as to who shall do the superseding depends somewhat upon the plan of management—possibly somewhat upon locality—and the answer to the question "when" (in case the work is done by the bee-keeper) is likely to vary from 1 to 2 years.

Miscellaneous News-Items

The First Annual Bee-Show of the Worcester County Bee-Keepers' Association was an educative stimulus mutually to public and bee-keepers. Mr. Burton U. Gates, who did much to make the show the success that it was, has kindly sent the following report of it:

From all corners of Massachusetts, from Rhode Island, Connecticut, and from the beautiful Champlain Valley of Vermont, where white clover grows in tangles; from New York, Chicago, and from Ohio, and even Florida, were collected sundry exhibits of bees, beeswax, honey, supplies, literature and bee-furniture for the First Annual Show of the Worcester (Mass.) County Bee-Keepers' Association. As originally contemplated, the management expected that perhaps a few hundred people, particularly bee-keepers, would stroll into the show. Much to their surprise a few thousand visited the hall daily.

The show lasted 3 days and evenings, beginning Sept. 24 and ending the 26th. During that time there were several bee-men of note who spent one or more days with us. We were especially fortunate in having Dr. E. F. Phillips, of the National Department of Agriculture, with us 2 days. He did his part to make the program as interesting and instructive as possible. He was constantly with the bee-keepers about the hall, giving them whatever information they were in search of. He also gave 3 addresses, speaking on "Brood-Diseases" Tuesday morning. In his address Dr. Phillips reviewed the work which has been done abroad and in this country, investigating the nature and causes of the diseases. Particular emphasis and detail was given to the most recent investigations of Mr. White, of the Department of Agriculture, who has so recently made new and startling discoveries of the bacteria of the diseases, and whose work is soon to appear in a Government bulletin.

Mr. Arthur C. Miller, of Rhode Island, associate editor of the American Bee-Keeper, spent parts of 2 days with us. Mr. Miller also assisted in the lecture program, giving two talks and a demonstration with a hive of bees in a wire-cloth cage upon the stage. Although the demonstration came in the evening, and under artificial light, the bees handled well, lending to the thorough satisfaction of the audience. Mr. Miller also brought with him 2 observation hives of his own invention, and in which he has made several important scientific discoveries. For this reason the hives, which are upon an entirely new principle, have been termed the "Miller Scientific Observatory Hive." Mr. Miller will have the device pictured and described later.

Exhibits at the Worcester Co., Mass., Bee-Show.

Mr. R. H. Holmes, prominent in Vermont as a heavy producer of honey, was here with a very fine display of comb and extracted honey. Mr. Holmes produces comb honey chiefly, and gets a fancy price for it in the market. This is due to the extreme care and accuracy with which he grades and packs his crop. Every section is spotless, having been polished, and is packed in a neat carton. Mr. Holmes also gave a lecture and some demonstrations in the cage.

Dr. D. E. Lyon, who represented the A. I. Root Co., stayed but part of 2 days. On Monday evening he addressed the audience on various topics of timely interest.

W. W. Cary & Sons, of this State, queen-breeders and sellers of bees, were represented by Mr. Cary, Jr., who brought with him some superior queens for exhibition. Mr. Cary also spoke on the queen-bee, her life and relation to the colony, the rearing of queens for market, their shipment, and kindred topics. There seems to have been a mystery in the minds of the people, which surrounded the natural history of the queen, for Mr. Cary had an audience spell-bound, and bending forward with wide-open eyes, ears, and even mouths.

Mr. Allen Latham, President of the Connecticut Bee-Keepers' Association, besides being present and giving an address, had on exhibition some noteworthy things. He comes before the bee-keepers in person and in the press, as a man with ideas the result of practise. He is an investigator, experimenter and reasoner, who produces most excellent results.

Mr. Latham showed samples of honey which he harvested out on the end of Cape

Cod, where we find little else but sand and sea-breeze. This honey, however, was most delightful in quality and color.

As a result of experiment, Mr. Latham demonstrated by a super of fine comb honey that the same can be obtained without separators. In the whole super (and he had more like them) there was absolutely no trace of cross-comb or burr-comb building; all was as trim as could be. The hive, of which there has been some comment of late, Mr. Latham's invention—Paroid paper covered, and deep frames parallel to the entrance—was among other things which he exhibited.

For competition the displays were numerous. Entries were particularly noticeable in the classes of comb and extracted honey. It was seen that the judges awarded the first prize for the best 5 pounds of extracted honey in glass to apple-blossom honey, which, not long ago, was said in one of the bee-publications to be fit only to feed back to the bees.

Vinegar made from honey was also exhibited. Mr. Latham had the finest sample, being clear, of fine color, and sharp.

The display of beeswax attracted much attention. Exhibitors prepared their samples with much care. In this line Mr. Latham had an interesting show of a 5-pound cake of fine, soft, yellow wax from which in the comb had been taken 150 pounds of honey, and in rendering which gave a ball of slumgum less than the size of a large marble.

The displays of bees which interested the public particularly, included Caucasian, Punic from an English strain, Italian, Carniolan, and blacks.

Cookery, examples of which were numerous, interested the ladies. In all instances the recipes were attached, serving as material to transcribe into many a note book.

Photographs of apiaries and swarms also proved of interest.

The judges of the displays were Dr. Phillips and Messrs. Miller and Latham.

Several of the bee-supply dealers, local and from a distance, all the prominent bee-papers, and much of the literature on bees, were represented. Akin to the desire for verbal information of bees, there was an endless demand for bee-literature, every available scrap of sample-copy material being used up; in some cases before the end of the first day.

Considering the show as a venture and as a whole, it was a most pronounced success. All the effects were not to be perceived immediately; they will be felt throughout the year, not alone by the bee-keeper, but by the salesman, and by both directly and indirectly. The show demonstrated two things: First, that we have the stuff in this region wherewith to produce a bee show worth seeing; and, second, that there is here a ready, responsive, and inquisitive public to appreciate the bee-keepers' efforts.

Another year, with similar efforts upon the part of the bee-keepers, an even better and more instructive display can be brought together. This is what the society hopes to do.

Worcester, Mass.

At this show the American Bee Journal was awarded a "certificate of merit," which is greatly appreciated.

* * *

The Apiary of H. A. Rushton.—When sending the picture shown on the first page, Mr. R. wrote as follows on Oct 29:

The photograph I send you is of my home yard, which contains 29 colonies. I started in the spring with 6, and increased to 20, and this fall I have bought 9 colonies, some of them being in box-hives, which I intend to transfer in the spring. I took 200 pounds of comb honey from this yard, for which I find ready sale at 10 cents for the dark, and 15 cents for the white. I get all my surplus from basswood, sweet clover and buckwheat, and sell direct to consumers.

In addition to my home yard, I run a small yard of 12 colonies about 20 miles from here. I started in the spring at that yard with 7 colonies, and increased to 12, and took 400 pounds of extracted honey (all white), and about 30 pounds of comb honey. The extracted honey sells readily at 10 cents a pound, and I did not have nearly enough to supply my customers.

I am a great lover of bees, and anxiously read everything pertaining to them. I have two bee papers, and look forward to their coming with eagerness.

The dog in the picture is one that came to my home, and she is not at all afraid of the bees. She is always with me when I am working with them. H. A. RUSHTON.

* * *

The Apiary of R. E. Merrill.—The picture on the first page, showing the apiary of Mr. Merrill and also his experiences, are described in the following, under date of Sept. 26:

This is my first year in the bee-business for myself. I have 88 colonies of bees now, having started in the spring with 63. I did not get any white clover honey this year, on account of late frosts in the spring. It opened up along about May 20, and continued blooming off and on until about June 20. All of it seemed to have a dead center or outer edge, and the bees did not touch it in this locality. I received a fair crop of buckwheat honey—about 4000 pounds. The bees just rolled it in for a short time, although the weather was very hot. There is a little goldenrod and smartweed in this locality.

I have a good market for my honey, and all of it is put out with my name on it.

My father has had bees for about 16 years on a small scale, and I was his main helper. Thinking that I liked the business, I started in for myself after spending one year with a prominent bee-keeper in Illinois. I expected to start in for myself the spring of 1905, but failing to get any bees I had to wait till last spring.

My chief object the past summer was working among diseased bees, for some of those I started with in the spring were diseased, and I tried to cure them. I have been successful in all colonies I tried to cure except one. I had at one time 6 diseased colonies, but now I have but one, so far as I know. I am not ready yet to say how I have treated the disease until I find out what will become of it, or whether it will show up again next year. The reason I say I still have one diseased colony is because I worked 5 under one method, and one colony under another, and the one is still diseased.

I get a great deal of information out of the American Bee Journal, and I think much of it. Every bee-keeper should read it, but not only this Journal, but all the other bee-papers as well. R. E. MERRILL.

Contributed Articles

T-Supers vs. Wide Frames for Section Honey

BY DR. C. C. MILLER

I have read with much interest the article of F. Greiner, on page 833. It must be a bit amusing to the veterans, and perplexing to beginners, to see such opposite views held by two men apparently familiar with their subject, and with no selfish purpose on either side. Mr. Greiner sums up the matter, viewed from his standpoint, by saying:

> "The wide-frame super has all the advantages of the T super, and few, if any, of its disadvantages."

From my standpoint, I would make a slight variation in the words, and say: "The T-super has nearly all the advantages of the wide-frame super, with some additional advantages, and few, if any, of its disadvantages."

It is not likely that Mr. Greiner and I will come to have the same views, unless we could spend some time together, with the two kinds of supers before us to experiment upon. Possibly we might be of the same opinion still, for he has just twice as much German blood in him as I, so, of course, he would expect me to be the first to yield. On the whole, it may be for me the safer plan to have the columns of a bee-paper for the bloody arena, and possibly some facts may be brought out of use to beginners.

Starting out to quote my reasons for preferring the T-super, I was surprised that Mr. Greiner should say:

> "The principal one is that a T-super is more compact, and brings the sections closer to the brood than any other contrivance."

And further surprised to learn upon looking at page 642, that he had some ground for saying so. There's where you caught me napping, Mr. Greiner, and you might well have pitted "Phillip sober against Phillip drunk," for I have more than once said I didn't want sections too close to brood-frames because of the danger of bits of dark comb being carried from brood-combs to sections; and that was one of the reasons for liking thick top-bars.

No, that's not a principal reason, nor a reason at all, for my preference. Please remember that in the "Question-Box" my answers must be brief, and to the question, "What is their advantage?" I gave on page 642 only two points, and unfortunately not all the chief ones. It might have been better if I had said, "My chief reason for preferring the T-super is that after having tried various supers, I think I can with the T-super secure a satisfactory crop with the expenditure of less time and labor than with any other kind."

Yet the other part of the statement, which you pretty much ignore, is not by any means unimportant. While there is an advantage in having some space between top-bars and the first super, I do not know of any advantage in having more than a bee-space between the sections of one super and the next one above it. With the T-super there is a space of ¼ inch between the top of one section and the bottom of the one over it. The space is, as you say, ⅝-inch greater with the wide frames; that is, with the wide frames the space is 3½ times as great as with the T-super. A fairer way, however, is to count the distance, not between the wood of the sections, but between the combs, and that will make your space 2¼ times as great as mine. You say you consider this difference "insignificant." I don't; and that's one reason why we disagree. You say:

> "With the amount of propolis gathered here, it is often an impossibility to remove the filled boxes from the surrounding case without injury to the honey."

No such difficulty occurs here, although this has the reputation of being a gluey region. The difference probably comes from the difference in our practise, for if I understand you rightly from statements elsewhere, you take the sections out of the super singly from the top, while I take them out *en masse*, turning the whole upside-down. That belief is strengthened by your saying, page 833, "taking the filled boxes out *en masse*, I consider of no importance." There again we disagree so widely as to account fully, without anything else, for our different preferences. Of so much importance do I count that matter, that if I were barred out from its advantage, and obliged to take sections out of the T-super, as I understand you do, I would at once capitulate and say, "I'd rather have wide frames." Again you say:

> "'It is my experience that sections do not fold square.' Sometimes only a part in a crate are faulty in this respect. Sometimes the whole lot is so bad, some folding diamond shape, that when placed in a T-super one corner of each section bobs up. There seems to be no way to keep it down."

With such a condition I don't blame you for not liking the T-super. I wouldn't like it either. But such a condition does not exist here. Say, Mr. Greiner, 15,000 to 20,000 sections are piled up in T-supers over in the shop, ready for a harvest that never came, and I wish you were here to overhaul the pile until you find a corner of a section sticking up as you describe. No, I'll not wish anything so hard as that, only that you should overhaul them till satisfied. Possibly you might find one in 10,000; I don't know. I can't tell whether the difference is in the sections or the management, but if my sections behaved as badly as yours do, I'd be down on the T-super, too.

In your third objection you are quite right in saying that if an unfilled super is dropped anywhere on the ground it may be disarranged. It would if a stub should project 2 or 3 inches upward and raise some of the sections, and when a super does come thus to grief, the disaster is worse than you have painted it. On level ground there would be no trouble. But we don't drop supers on the ground. There's no need of it. When brought into the apiary, if they're not on a wheelbarrow they're put on the top of some hive, directly on the cover. It's easier to set them there than to put them on the ground. Sometimes it is convenient to set one on the ground, in which case the most convenient thing is to set it on one end, leaning against a hive, where it is as safe as a wide-frame super.

Fourthly:

> "When sections are taken out of wide frames they often are encumbered with little ridges of the sticky or brittle substance—according to the season of the year and the temperature—along their edges, particularly on the tops. The question now arises, which is more difficult, to remove these ridges, or to clean, scrape and sandpaper both top and bottom of each honey-box? Any one need not be familiar with this work, but he can tell at a glance that 10 sections from a wide-frame super can be made presentable in less time than one can out of a T-super here in New York State."

It may be that propolis is worse with you than with me. I doubt if I could scare up so bad a specimen as you have shown. With all that, one would be misled whose glance would tell him that 10 sections out of wide frames can be made presentable in less time than one out of a T-super. Yet I don't blame you for thinking so, for you were probably thinking of cleaning the sections one by one. But with the T-super that *en masse* business comes in again, all the tops and bottoms being cleaned wholesale. First, the rough is taken off the whole surface by a cabinet-maker's scraper, and then No. 2 sandpaper makes a finish. You can do that with wide frames, but must make 24 separate jobs of what is one job with T-supers. Of course, I don't mean to say the 24 tops or bottoms will be cleaned in the same time as one top or bottom out of a wide frame, but I do mean to say that they will be cleaned in less time than 24 of the wide-frame tops, even allowing that the latter have only the margins glued.

"It is a practical impossibility to remove full sections from a T-super while on the hive." I have removed hundreds, if not thousands, in that way. But of late I don't do it; there's no need. I cheerfully admit that it's easier to take a single section out of a wide frame.

Finally, you say with regard to "go-backs:"

> "It is very fussy work with the T, to fix up a super full of these, but it is very easy and simple with my super. Usually, if any sections in a super are unfinished, they are found in the outside row. In a moment these 4 are lifted out of one super and returned to another."

If you always take a whole frame full of 4, then you have the best of it. But I couldn't be induced to do that. For generally the 4 do not proceed equally toward completion. The end sections may still be unfinished while the central ones are fully sealed, and I wouldn't want to send these latter back to the bees. If taken while the whole 4 of the outside frames are still unfinished, then the 2 end sections of the next frame are likely to be unfinished, and the trouble comes with that frame. On the whole, it would be just as fussy with wide frames as with T-supers "in this locality."

Mr. Greiner, if I had your plans, conditions, and views, I wouldn't have a T-super on the premises, except as an "awful example;" as it is, I think I was largely the gainer when I threw aside my thousands of wide frames for the T-super. Moreover, I have a strong suspicion that my plan of management would work all right in your locality.

Marengo, Ill.

Shaking Bees Off their Combs

BY G. M. DOOLITTLE

I am bothered very much in getting bees off their combs when I wish to take them from any colony for any purpose, and especially in the fall, when the combs are heavy with honey and the bees are inactive. Will you tell the readers of the American Bee Journal how to do it? We are told to shake the bees off, but there must be some particular way to shake them that I do not know of, for I can not get half of them off by any way I have used.—A CORRESPONDENT.

In shaking bees off their combs there are several items to be taken into consideration, such as the kind of bees we are keeping, the way the combs are built in the frames, the amount of honey they contain, the time of the year we are doing this work, and the *how* of doing it, each of which should be kept in mind if we are to be successful in our undertaking.

If the bees are of the black or German variety, there should be very little trouble in shaking them from their combs at any time of the year, and during the main working season with the bees, nearly or quite every bee can be shaken from their combs almost as easily as a person can pour potatoes or apples from one basket into another. And with most varieties of hybrid bees—these being more largely found with the average bee-keeper to-day than any other—even 99 percent of these can be shaken off with very little trouble. But with the Italians the case is somewhat different, as they will hold to their combs the most tenaciously of any bees with which I am acquainted. Yet, with these bees, I have very little trouble at all times when work is being done to any amount. At other times I have to cause them to fill themselves with honey, as will be given later on.

Then, the way the combs are built in the frames has very much to do with the matter of freeing the combs of bees by the shaking process. If the combs are built in the frames as they should be, it aids very much in ridding the combs of bees, no matter what process is used in doing this, but, especially so, where the shaking process is used. In visiting different apiaries, I have found that very many of the combs used or tolerated by various bee-keepers, are almost totally unfit for ridding them of bees, in that they are bulged, crooked, full of holes, and, beyond all, each comb has a bee-space between the bottom of the comb and the bottom-bar of the frame. Such combs are a very provoking thing where a person wishes to rid them speedily from bees.

The point worth looking after by every bee-keeper is to have every frame full of comb which is in a straight, even line with the frame, thus giving the bees no little holes or open space along between the bottom-bar of the frame and the comb, into which they can crowd in such a shape that they can not be dislodged as long as they can stay there. With such a space along the bottom of each frame—between the upper side of the bottom-bar and the bottom of each comb in the hive—at least double the time is required to dislodge the bees from their combs that will be needed where every comb completely fills the frame, and every comb is a straight one and free from holes. The only redeemable feature the reversible-comb craze of a few years ago had, was that thus reversing was sure to fill every frame full of comb. But this can be done very easily by putting the combs in an upper story during a good honey-flow, when the bees will build them down to the bottom-bar, after which we are rid of this nuisance; and, besides, we gain 2 or 3 more rows of cells in each frame in which brood can be reared, so that this matter of an extra amount of brood more than compensates us for our trouble, to say nothing about the advantage we gain when we are ridding the combs of bees.

Next we have the amount of honey the frames contain to contend with when shaking, for it is not nearly so easy to shake a frame containing from 6 to 10 pounds of honey as it is one having not more than from nothing to 2 pounds. But there is something to help overcome this heavy part of the matter, provided that the honey is sealed over, for where such is the case, all holes are almost sure to be filled, and, best of all, there are no empty cells for the bees to get a firm foothold therein, so that they are more easily dislodged, and that with less effort than they are from nearly empty comb. If they could hang as tenaciously to combs of sealed honey as they can to combs containing mostly empty cells, the ridding of combs full of honey by the shaking process would be out of the question, and some other process would have to be used.

We now come to the time of the year when we are to do this work. With a good honey-flow on I have no trouble with any variety of bees—no, not with the most tenacious Italians; but when it comes fall, and the bees are in that quiescent state into which they go preparatory to their successful wintering, then we have a different state of affairs. Luckily, we do not want to disturb the bees very much at this season of the year, except for the uniting of small colonies or something of that kind, so that all of our work will allow, if not require, that we cause the bees to fill themselves with honey before we are to perform our manipulations with them. And when the bees are filled with honey they will shake off the combs at any time of the year just as easily as they will during a bountiful honey harvest in June or July. As all know how to cause bees to fill themselves with honey, I will not stop to tell about that here.

With all colonies that adhere very tenaciously to their combs, and at all times when there is no honey coming at the time when it is necessary to shake the bees from their combs, they are caused to fill themselves with honey, when they will tumble off their combs as easily as "tumbling off a log," when the *how* of the matter of shaking is understood, which is as follows:

Place the projecting ends of the frame on the ends of the two middle fingers of each hand, and then with a quick upward movement or toss, throw the ends of the frame against the ball of the hands, or that thick part at the base of the thumb. As the frame strikes the hand let the hands give a sudden downward motion, which gives a shock the bee is least expecting, and as the frame strikes the fingers it is again tossed back against the hand, and so on till all, or nearly all, of the bees are off. The principal is that the bee is on her guard all the while to keep from falling off downward, thus holding on tenaciously with that intent in view, so is not easily shaken off by any downward motion, which is the one generally given when the novice undertakes to rid his combs of bees. By a sudden stopping of the upward, and a quick downward motion, the bees are thrown off their guard and dislodged from the comb in an upward direction.

In shaking bees from the combs I find that nine out of every ten bee-keepers which I see doing such work, stand right in front of the entrance to the hive, with a swarm of bees behind and all about them trying to reach their entrance, or doorway, which is blocked by the great, big body of the one doing the shaking. Don't do that way. It is not treating the bees with politeness, to say the least; and, besides, were you to look on the ground after you were through, you would find hundreds of killed and maimed bees on which your big feet had trod while you were doing this operation. It is just as easy to stand at the rear of the hive, partly lean over toward the entrance, when the shaken-off bees will fall right in front of their door, and run in at once without bother; and if you will listen to their merry hum as they go in, you will hear them saying, "Thank you, *Thank* you, Thank *you*."

Borodino, N. Y.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Sisters Should "Talk Up" Honey

Very interesting reading is that editorial on page 893, about the disastrous failure of the advertising campaign that spent such an immense sum in trying to make the fellow believe that glucose was as good or better than honey when sold under the name of "Karo." Better worded advertisements it would be hard to devise. Skillful advertising writers were no doubt well paid for the brains put into them. No doubt thousands of the dear public were deceived — for a time. Knowing little or nothing about honey, only with the idea that it was a delicious luxury ministering not at all to the health and strength of working people, but something to be indulged in merely by the rich, they were told that here was something just as good as honey that could be bought for the same price they were in the habit of paying for ordinary syrups. So when told they could try this wonderful new product at 10 cents a "try," why shouldn't they try? Try they no doubt did in many cases, only to find the thing a cheat, and then the collapse came.

Now comes the question, If a clear-headed, money-making business concern should think it worth while to spend such vast sums of money to introduce something that had so little to maintain its deceptive advertisements, is it not worth while to take equal pains to advertise something that needs only the telling of the truth?

"What have the sisters to do in the case?" Listen. Not all advertising is printed matter. A vast amount of advertising is done by talking. Rightly or wrongly, we sisters have the reputation of doing the major part of the talking that is done. Are we doing our full share—are *you* doing your full share—in talking up with none-bee-keeping sisters the good qualities, the benefits, the advantage from different standpoints, of a daily use of our luscious sweet? Think it over.

* * *

Poultry-Keeping for the Bee-Keeping Sisters

Not every one realizes the large sum to which the chicken-and-egg business amounts in this country. And much the greater part of that business is in the hands of women. Many of the sisters who keep bees might do more at the chicken business than they do, and by proper management it need not conflict with the work of the bees. Although not having the sisters in view, here is what Victor D. Caneday says about the combination of the two lines of business in the American Bee-Keeper:

> Bee-keeping is particularly adapted as an adjunct to poultry farming, as the heaviest part of the work among the bees comes at a time when the poultry work is comparatively light. On most practical poultry farms the

hatching season closes with May, and the work during the remainder of the season is comparatively light, while the work with the bees is most exacting from the last of May through June and July. If the poultry-keeper chooses to bend most of his energies to obtaining fall and winter eggs, which are the most productive of profit, he is free to give them his entire attention, as the bees require very little of his time at these seasons.

The labor of both bee-keeping and poultry-raising is comparatively light work, and to one not very strong, and who feels the need of an open air life, there are few occupations which are more attractive and fascinating, and certainly few which require so little capital to be invested and yet are capable of furnishing one with a good living, if not something besides.

Common Use of Honey in Russia

In The Delineator, J. M. Devaux tells about the dishes of different countries, and when telling about Russia, he speaks about the great amount of tea-drinking, the lunching at noon with its appetizers, cold food, and liquors, and then says:

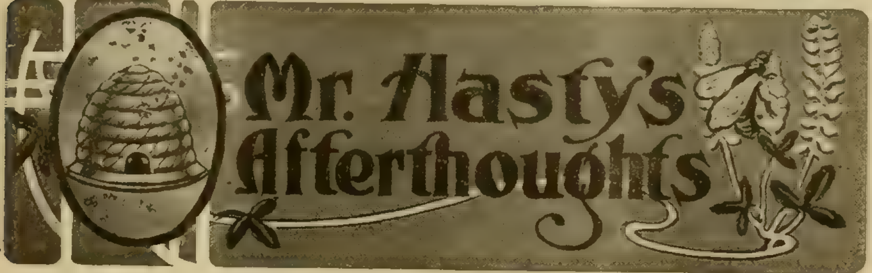
> When the appetite is thus prepared, the event of the day, the more or less elaborate course-dinner is served. This is followed by a siesta, which is usually much needed, and then comes "tea," a repast at which the ever-smoking samovar looks down upon a table actually groaning beneath a weight of fruit, cakes, pastry, honey, preserves, pickles, cold-meat dishes, and many other delicacies.

This is not given by any means as a desirable thing to imitate, but to call attention to the fact that honey seems to be in so much use that it is worth while to mention it in a general bill of fare. Would a foreigner, after a visit to this country, in describing the habits of the people, be likely to mention honey as a general article of diet?

Here's what he says about honey-drinks:

> I shall never forget my first taste of *kvass*, which is made from barley and honey. Served to me from such a delicate vessel I imagined that I should find it the most dainty of domestic beers. What was my horror, therefore, to discover that I was compelled to swallow something that tasted like a most disagreeable medicinal preparation, and though I afterwards learned to drink it, I shall always remember my introduction to the Russian's substitute for beer.

What a pity that the disgusting taste did not continue! Let us be thankful that in this country the making of alcoholic drinks is not one of the common uses of honey.



The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

A STRETCH OF THE IMAGINATION.

I have heard of corn growing so fast that it could be heard to snap, but never before of honey coming in so fast that the hive would snap and crack as the added weight told upon the stands. That was in the county of jolly Missouri, which sports the appropriate name of Gasconade. Queen gets so frightened for fear her house is going to fall down that she only lays one egg a week, Mr. Doolittle. Page 804.

LAYING ABILITY OF QUEENS.

Well, maybe I can come down sufficiently to stand Mr. Carr's story of 16 frames of brood pretty well filled—stand it with only moderate choking and gasping. Looking at the queen not strictly necessary. (I suppose Mr. Grimes was always glad to convince skeptics by letting them *look at* his justly famous two-eggs-every-Sunday hen.) To have lot of brood at one time is less incredible than a similar quantity continuously. But 16 frames would be 80,000, and to get them even once would require average laying of 3800 for 21 days. Will admit some surprise—and also class this case as one of the "extreme cases" I spoke of. An extreme case does not settle the question. "What is the usual work of a first-rate queen under favorable circumstances?" Page 804.

EXTENSIVE CALIFORNIA BEE KEEPING.

We can't all be Mendlesons, can we? Just look once at his tanks and tanks, and stacks, and pipe line—like the Standard Oil Company! Still, it's a rather *lonesome* looking picture. Face of No. 39.

PURE MATING OF QUEENS.

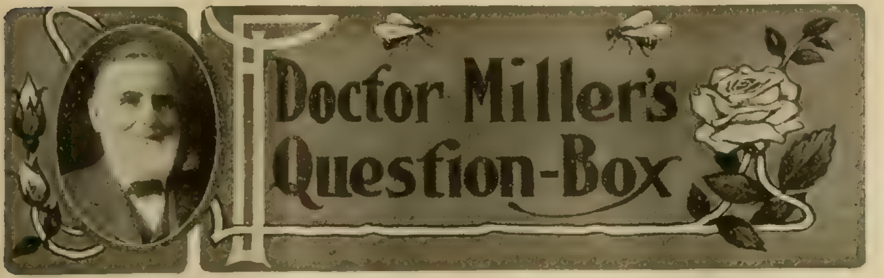
I'm not ready to send in my last regiment and make it a Waterloo just now—incline to hold off, after the celebrated strategy of Fabius. Enemy pretty strong, and I pretty much alone, and cause a pretty important one. I'm in no hurry to see my Rome taken. Nevertheless I must talk a little—about the prevalent trying to secure the pure mating of queens—and securing exactly the opposite thing.

Thanks for the editorial kind remark, that if swiftness decides getting a million more slow-poke drones is not going to help matters any. But, if I have the right of it, neither swiftness nor numbers avail; and the queen does not lead off with any great swiftness. The drone that wins is *the one that gets ready first*. None with any promptness to spare. Most of them entirely unready. The best account of mating flight that I remember represents the queen as coursing along followed at greater or less distance by many drones. Far from putting on highest speed and trying to escape, the queen now and then for a brief instant turns towards them and says: "Have any of you fellows any sand?" and then goes on again. First one ready is elected—and a million *not quite ready* stand no chance whatever. And no discount on any drone if pampering should render his flight not quite so swift. It really seems to me that the folly of the current practise and teaching ought to penetrate the average bee-man's noddle.

Among plains-cattle the bull that can conquer in fight wins; and several flogged ones don't count. Among birds the one that can sing best, and appear best in the eyes of the lady, wins; and a dozen not so pretty or not so musical don't count—her fiat and selection turns them down. Among bees the male whose stock of virility and vim is largest and quickest to overflow wins; and a hundred *that would be ready a minute later* don't count. The birds are far more admirable from the esthetic point of view; but the bees have the style tending most strongly to the improvement of the race. Yet when man wants to try his hand at improvement, then Nature's way becomes (to him) an obstacle.

Now, Dr. Miller and his nice little square of comb fitted in where he has cut out a patch of drone-comb. How on earth is he going to prevent one drone-cell on each corner of his sliced work? And 4 on the other side makes 8. There are more combs in the hive, but we don't need to talk of any more. Eight drones in a hive are enough if say 40 of the 100 colonies in an apiary are on the black list. Let the apiarist sacrifice his crop of honey and devote all the other 60 to nothing else but rearing drones—all the drones he can; and the Gideon's band of 320 from the 40 hives will get more than half his queens. Slicing patches of drone-brood is not very difficult; but getting all the scattered single ones is desperately difficult, and if the number of colonies is large it is practically impossible. Eyes will bobble the work and miss some of them if kept so long on the search. The work is disagreeable as well as long. Can't get half the scattered single ones till you shake off all the bees—and drench the ground with nectar. (All this a wild mistaken notion—we don't know?) (Or shall we say that a different handling of the facts would lead to a different conclusion? More observations of mating flight are urgently needed—that no one can deny.) Page 814.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.



Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to
DR. C. C. MILLER, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Bees Stinging the Neighbors

My bees are kept on a city lot, with neighbors closely adjoining, and of late the neighbors are beginning to complain that the bees are troublesome. Is there anything I can do to help matters? ILLINOIS.

ANSWER.—It's not so much what you will do as what you will refrain from doing that may be counted on to help matters. Don't do anything tending in the least degree to start robbing, such as letting honey stand exposed and letting brood-combs stand where robbers can get at them. If you must open a hive when bees are not storing, see that any combs set out of the hive are at once covered up. Sometimes you will find that the bees are more gentle at one time of day than another; humor their whim, and take them in hand when at their best. If you find them very cross, close up the hives and try it another time.

Other things being equal, handle your bees in the evening, if you want to avoid cross bees. Not that they are more gentle in the evening—they may be more gentle in the morning—but if robbers get started, the closing of the day will send them home. Avoid having queenless colonies; they are more inclined to be cross than bees having a laying queen. Often the trouble can be traced to a single colony. It may seem that all the bees in the yard are cross, but close observation will show that there is only one cross colony. When you have spotted the culprit, kill the queen and give them one of gentler manners. Perhaps it may be that your bees are not of gentle strain, and you need to change to pure Italians or some other gentle kind. Much is claimed as to gentleness for the Caucasian bees, although they are not yet much known.

Wants to Know About Shallow Hives

I would like to ask some questions about shallow hives as mentioned by Geo. B. Whitcomb, on page 218.

1. Why are deep combs more bulging than shallow ones?
2. Does operation 2 apply only to shallow hives?
3. Is there any way bees can be gotten into supers as easily as mentioned in No. 3, if one has not shallow hives?
4. Is there any way by which contraction can be as easily performed as the way mentioned in No. 4?
5. Can queen-cells not be seen from the bottom with deep frames without taking out frames? SUBSCRIBER.

ANSWERS.—1. When combs are built down deep, the bees have a habit of making them waving if comb foundation is not used, and likely that is what is meant when they are called "bulging." It is probable that they are built thus waving for greater strength. But when the frames are properly filled with foundation, combs in deep frames are as straight and true as shallow ones.

2. No, the result will be just the same if you divide into two parts the contents of the old hive and put it on two different stands, whether the frames are deep or shallow. But it is a simpler matter with the shallow hive, and more quickly done.

3. Yes, and more easily. Whether the frames be deep or shallow, bees will readily take to the supers if you put in the super a bait-section, or one that contains drawn-out comb.

4. I suppose you mean to contract with deep frames. Some practise letting strong colonies have two stories of Langstroth frames up to the time of putting on section-supers, and then reducing to one story, just as mentioned. Not many would want to contract to as little as one story of shallow frames, but for those who want to practise such severe contraction, the shallow hive allows more easy manipulation. It is also better than to take out half the deep frames, for bees will not work nearly so well in sections with no brood-frames under them.

5. Yes, you can see the cells on the lower edge of the comb just as well with deep combs as with shallow ones. But there is more danger that cells higher up may be out of sight with deep combs than with shallow ones. But I wouldn't feel entirely safe without taking out frames in either case.

Keeping Bees on Shares

What is the rule to work an apiary on shares? I always understood that the owner was to give ½ of the honey and ½ of the increase of bees; the renter to do all the work, and each to furnish half the supplies. Is that correct? MISSISSIPPI.

ANSWER.—There is no fixed rule. Circumstances vary greatly. If you are a skilfull bee-keeper, you will obtain more honey than one who knows very little about bees, and ought to get a larger share. On the side of the owner, his investment is a fixed quantity; he wants a fair return on his investment, and it will be more profitable for him to get a fourth of the proceeds with his bees in the hands of some men than to get three-fourths from others. Generally bee keeping on shares is not very satisfactory, and there is probably less of it than formerly.

Your idea as to division of outlay and income is probably as much in vogue as any, and is not out of the way where the one who does the work has a moderate knowledge of the business. It will be well for you to have a very definite agreement in writing as to just what is to be done. You will be more sure by that to keep friends than if you leave things loose for misunderstandings.

Does the Queen Control Sex of Eggs? —Other Questions

On page 719, an article by "West Virginia" seems to throw doubt on some of the things that seem to be generally believed; and if it would not be too much trouble it might be a good thing if you would kindly say in your question-box just what is to be believed as to the points in question. ILLINOIS.

ANSWER.—It would take a good deal of space to take up in detail all the points involved; but I'll try to answer as well as I can within the prescribed limits.

The first question asked, is, "Does the queen-bee have control over the kind of egg she deposits in the cell?" I don't know, and I don't believe any one knows for certain. Some think that the queen uses her judgment, and by an effort of the will lays each egg in the kind of cell proper for it; or, to put it in another way, fertilizes each egg destined for a worker or queen cell, and leaves unfertilized each egg she lays in a drone-cell. Others think that in some mechanical way the kind of cell automatically causes the fertilization of each egg laid in a worker or queen cell.

In the 5th paragraph "West Virginia" gives an instance of a queen-cell "built right over the drone-cells;" and at that time he thought "that if the worker-bees had not changed the form and size of the cell it would have brought forth only a drone-bee." It is not entirely clear whether he thought the same afterward or not; but in any case his thought was wrong. If the egg would have produced a drone in case no change in the cell had been made by the workers, then it would have produced a drone when the workers enlarged the cell into a queen-cell. Many a time bees have been known to try to rear a queen from a drone-larva, but no matter how large they made the cell, and no matter how they fed the larva, a drone was always the result, although it always died in the cell.

"W. V." evidently thought that a queen-larva was reared from an egg in a drone-cell. There is one chance in many thousand that there may have been a worker-egg in a drone-cell, in which case a queen might be reared from it. But if it was a drone-egg, that is an unfertilized egg, then by no possibility could a queen have been reared from it.

Neither would it have been likely that the bees would have chosen a larva in a drone-cell, when worker-cells were present, as seems to have been the case. I can not say positively that the wise little creatures would never do such a foolish thing, but I do not remember that such a case has ever been recorded. If nothing but unfertilized eggs are present, bees may try to rear a queen from one of them, but that's another thing.

It is not at all unlikely that the queen-cell built "right over the drone-cells" was started in a worker-cell immediately above the drone-cells, and then built down over them.

In the 2d paragraph of the 2d column, "W. V." says: "And now I am still at a loss, for in the first answer you will observe that he says that the sex of the bee depends upon whether the egg is *fertilized* or not. An unfertilized egg produces a drone, and a fertilized egg a worker or queen. In Ans. 2, you will see that he says that in our opinion it does not, since there are two kinds of eggs laid by queens, which are, namely, the male and female."

Evidently he thinks there is conflict between the two answers, although he does not make it entirely clear just what the conflict is. I think there is nothing in either answer to conflict with the well-known fact that from a fertilized egg only a worker or a queen will result, and from an unfertilized egg only a drone will result, no matter in what kind of a cell the egg may be placed. Neither is there anything in either answer to conflict with the fact that normally only a fertilized egg will be found in a worker or queen-cell, and an unfertilized egg in a drone cell. "W. V." says further: "Now, if the queen does actually lay two distinct kinds of eggs, they will necessarily have to be deposited in the proper kinds of cells; that is, the worker-eggs will have to be deposited in worker-cells, and the male eggs in the drone-cells, for nothing but a drone will hatch out of a drone-cell, and only a worker come out of a worker-cell, or a queen out of a queen-cell."

In this he is wrong. Although as a rule eggs are laid in the proper kinds of cells, it does not follow that "they will necessarily have to be deposited in the proper kind of cells." Exceptions frequently arise, drone-eggs being found in worker and queen cells, and *vice versa.* He is wrong in thinking that "nothing but a drone will hatch out of a drone-cell," for I have seen, and so have others, perfect workers emerge from drone-cells. Some make a practise, also, of using drone-cells in which to rear queens. Just as wrong is it to think that "only a worker can come out of a worker-cell," as is testified by the thousands of drones reared in worker-cells where laying workers are present, or a drone-laying queen; and even a good queen sometimes lays drone-eggs in worker-cells.

"W. V." is probably quite right that his queen would not have laid drone-eggs without the presence of drone-comb, but wrong in being of the opinion that "the queen has to be properly mated before any of her eggs will hatch." A queen that has never mated at all may lay eggs, and the eggs may hatch, but only drones will proceed from such eggs, even if laid in worker-cells. His doubt as to an unfertilized egg bringing forth anything will doubtless disappear as he becomes more familiar with what has been learned, and he will find it not "contrary to all rules."

Even admitting his quotation that very little is known concerning the principle of breeding, there is still enough known to make a fairly good working basis, and in what I have said in the foregoing, I have given only what is well known to all well-informed bee-keepers as actual fact.

Southern Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

November—Broomweed Honey

And still we are having sunny days in which our bees are working away on "broomweed," and storing the golden-colored honey for winter needs. The flavor of this honey is somewhat strong, and a little bitter, but the bees do not seem to mind it; neither does the bee-keeper, for it's a blessing to have the hives "full and running over" of "golden stores"—a "blessed assurance" that the bees are well prepared for the cold months, and until the next season opens.

Guttierezia texana, Tor. & Gray, commonly known as "broomweed," is distributed very widely throughout Texas, on open, sterile plains. The Mexicans use a bunch of these weeds, which grows about 2 feet high, as a broom, simply tying together with cords, made by tearing into strips the long leaf spines or "daggers" of the "yucca" plant, commonly called "Spanish Daggers." This, with its large spikes of white, bell-shaped flowers is another honey and pollen yielder, particularly of the Southwest, but not of any great importance, as it is not very plentiful.

The Sumacs of Texas as Honey-Yielders

Several have asked me to write something on the sumac, as I had mentioned it as our best honey-plant of this locality a good many times in my writings. There are several varieties of sumac even in this State, all of which are great honey and pollen producers, and are closely related both as to habits of growth, color of pollen, etc.; that is, all except the variety known as "Spanish" sumac. This has a different colored pollen from the others, which I shall mention further on. I shall not attempt to give the scientific names of these plants, but simply the common or picked-up names that are used among bee-keepers and others. I shall mention them in rotation, as they come in bloom.

The first is what is known as "White" sumac. It is of a scrubby growth (as are all other varieties), seldom growing to a height of 6 feet. It comes into bloom the last of April and first of May, the bloom lasting 2 to 3 weeks, and yielding a clear, well-flavored honey, and a bright yellow pollen (almost red), of which the bees seem very fond, as they carry large loads at all times of the day during its bloom. Like the other varieties of sumac, it has 2 kinds of bloom; that is, male and female, but on separate bushes. But as an All-Wise Creator intended, no doubt, the bees visit freely from one bloom to the other (the male and female) on the same trip, which insures perfect fertilization of the female blossoms. This variety of sumac is confined to the eastern portion of the State, none of it being found in the western counties, to my knowledge.

The next is called "Black" sumac, and is closely related to the first-mentioned, except the leaves are smaller, the bark of a darker color, and the blooms smaller; that is, they do not grow in as large clusters, and it blooms about a month later than the white sumac I have thought the honey from this variety had a little more of a yellow cast than that from the white sumac. This variety is also confined mostly to the eastern portion of the State, and has the 2 kinds of bloom, the same as the white, and bees work freely on the bloom at all times of the day.

The next—well, I don't know how to define it, unless we call it "Western" sumac, as it grows in almost all of the western counties in Texas, where limestone rocks and chalky hills are found, and is the best honey-producer of the sumac family, according to my views. This sumac grows larger than any of the other varieties known to me—the largest often growing to a height of 12 to 15 feet, and from 3 to 4 inches in diameter at the ground. This, too, is closely related to the other varieties mentioned. The leaves, though, are larger than those of the black sumac, but not quite as large as the leaves of the white, and they are of a brighter green than the leaves of the other two. The largest would make a nice ornamental tree for the front yard or lawn. It comes in bloom the last of July and lasts through August, furnishing a bountiful supply of both honey and pollen at all hours of the day. It, too, has the 2 kinds of bloom on separate trees. The pollen is of the same color as that of the other 2. The honey is of a light straw color, of good body and flavor, and always brings the highest price here in our Southern markets.

The last I have any knowledge of is "Spanish" sumac. This grows in crevices of rocks in the most inaccessible places; is an evergreen, and of a scrubby growth, seldom reaching the height of 4 feet. The bloom is white, and also the pollen gathered from it. The honey is said to be of the finest quality (I have no personal knowledge of the quality of the honey). It blooms the last of September and first of October.

This completes the list of sumacs so far as my knowledge goes for this State.

Rescue, Tex. L. B. Smith.

Mr. Smith, your remarks about the sumacs as honey-yielders are of much interest to me, and I immediately went through my herbarium of Texas honey-plants to find out more about them.

The most generally reported source for fall honey over the entire State is from the sumac. In getting data on the main honey-yielding plants of their locality, from several hundred bee-keepers in all parts of the State, very few did not mention sumac as a fall honey-plant. This shows that it is distributed widely all over Texas, although there may be different species in different localities. The honey seems to be of a good quality and of light color in almost all localities, just as you report it from North Texas. My bees have stored surplus honey from this source some seasons, and the honey was also of good quality.

Herewith I will give the several species of sumacs of my collection, together with their distribution as labeled:

The sumacs belong to the family *Anacardiaceæ*, or Cashew or Sumac family, and to the genus Rhus. They are shrubs or small trees, with simple or pinnate leaves, and small white or yellowish flowers in panicles, and sometimes in spikes.

Rhus copallina L. (Dwarf sumac) is a shrub growing only several feet high, although I have seen it in good soil attaining the height of small trees, or 8 or 12 feet. The branches are downy, and the leaflets, 9 to 20 on a leaf-branch, are also so underneath, but shining above. The flowers are borne in terminal spikes, and the red, ripe fruit is covered with crimson acid hairs. This sumac is the most important of the family as a fall honey-yielder, in August and September. This species ranges through eastern, southern, and western Texas, and is, I suppose, what you call "Western sumac."

Rhus canadensis, Marsh — a straggling bush with whitish leaves when young, and becoming smooth and green later. The flowers are a pale yellow. This is a common eastern species, and extends into Texas; probably your "White sumac."

Rhus microphylla, Englem., is a large shrub with warty branches, leaflets rather small, and flowers in scaly spikes. Perhaps your "Black sumac."

Rhus virens, Lindh. (Green sumac). This is an evergreen, leaves thick and coriaceous, pale below and shining, dark green above; the flowers in rather open panicles are situated both in the axis and apparently terminal portions of the branchlets. This species is very plentiful throughout the wooded areas on limestone soils of Texas, and yields both honey and white pollen in October, the bees roaring on it from early dawn until late, when not prevented by cold weather. A very common name for this species is "Indian tobacco," as the leaves are mixed with tobacco and smoked by Indians and Mexicans. I am sure this is what you call "Spanish sumac."

One thing of interest to me is that the name of the author of this sumac is Lindheimer, who was a great naturalist of our own city of New Braunfels, and his name appears quite frequently in works on botany; besides delving into entomology. His collections were extensive throughout southwest Texas and Mexico.

The last three of the sumacs named here are not as important as *R. copallina*, but in favorable seasons, especially when late summer rains have been plentiful, bees simply "go wild" over the bloom, both for honey and pollen.

Rhus toxicodendron L. (poison ivy, poison oak). This is a poisonous vine belonging to the Sumac family, climbing over rocks and trees by its rootlets. The leaves are thin, in threes, variously notched, and rather downy beneath. It is found very common on all streams and lowlands of southern and western Texas. Bees fairly swarm on the blooms in late summer.

Poison oak is well known to most persons, as many people, especially those of a delicate nature, who come in contact with any part of this plant, are subject to severe swelling of the parts of the body affected, sometimes resulting in eruptions of those parts. Hands and arms sometimes swell to such an extent that they can not be used, and the organs of the face become of such proportions that their use is almost entirely lost for the time. Eyes swell shut, and the throat is closed so that food can not be taken. Many persons who have been affected in this way once dare not go near places where poison oak grows, as it is not necessary even to come in contact with the plant again to become reaffected.

Reports and Experiences

Bees Did Fairly Well

My bees did fairly well considering the very dry May and very wet June, July and August. They are in fine shape to go into the winter. I got a large swarm Sept. 6. I brought them down from the farm to my home here and fed them about 3½ gallons of honey and sugar syrup. L. A. HAMMOND.

Keedysville, Md., Oct. 31.

Honey Crop a Failure

The honey crop was a failure in this locality this year, but my bees will not suffer. I derive lots of pleasure from looking after them. The honey produced here can not be surpassed for flavor. I have Italian and German bees. The latter stored no surplus honey.

J. T. WORTHINGTON.

Rosalia, Wash., Oct. 6.

Clear Case of Starved Brood

On page 900, I read the article which is headed, "Perhaps Some New Bee-Disease." It is not foul brood, nor disease of any kind, but is a clear case of starved brood. I may be told that these colonies have plenty of honey, which is likely to be the case, and then the person may feel positive that I am very much mistaken, and say so.

This person says that it is very contagious, and is honest in his opinion on this, because he has found so much of this class of dead brood, which has made many of our best bee-keepers declare it to be a disease. Oh, no; you are very much mistaken on this point also. It is not contagious.

The breed of bees and brood-chambers running out of *unsealed* stores at certain periods had everything to do with this class of dead brood.

Many of the best bee-keepers in the Province of Ontario make mistakes every year, and declare that disease has broken out among their bees, when they find this class of dead brood. Strong colonies of well-bred Italians, kept with plenty of *unsealed* stores at all times, will never have any of this class of dead brood (starved brood). WM. McEVOY.

Woodburn, Ontario, Canada.

Bees Don't Do Well

I have 30 colonies of bees, and they just about pay expenses, and furnish the table with honey. They are very weak. I don't expect to get half of them through winter. They have plenty of stores, but there is something wrong with them. I don't know what to do to save them, except pack them up good and warm and let them wait for the outcome.

Albany, Ind., Nov. 4. HENRY VINCENT.

Worst Drouth This Year

I started last spring with 25 colonies, which averaged 50 pounds per colony. We had the worst drouth this year that I can remember; there was hardly any white clover to be seen, compared with last year. The linden was also a failure, the storm knocking about half to the ground. It was the end of June, and the rest blossomed so sparingly that I didn't hear the hum of the bees as usual, so we had only half a crop, BR. ALOGSINO.

Techny, Ill., Oct. 30.

Will Give Bees Further Trial

I have been keeping bees for several years, using hollow logs and also square boxes for hives, but have never realized anything from them. So I had about made up my mind to quit fooling with them, but owing to a fondness for their honey, I decided to give them a further trial. So about a year ago I got hold of a bee-paper, and it give me a little light on the subject, so I sent for a bee-book, also subscribed for the paper and began to read, and, a short time ago, I subscribed for the American Bee Journal and Prof. Cook's "Bee-Keeper's Guide." I am very much pleased with the American Bee Journal. I have one movable-frame hive, and since looking it over, I have decided to put all my bees into hives with movable frames. Most of my bees are blacks, but I wish to Italianize them in the spring, and also transfer them.

Oolegah, Ind. Ter., Oct. 31. C. C. BURNS.

ITALIAN QUEENS

Too late to deliver them? Yes! But not too late to **begin to get ready for next spring!** I give personal attention to correspondence. My queens are guaranteed. Write at once to

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Moore's Strain of Italians

AS RED-CLOVER WORKERS

Wm. S. Slocum, Newport, R. I., writes:

"My friend, W. O. Sweet, West Mansfield, Mass., asked me about 2 years ago where he could get good queens, and I referred him to you. To-day he called on me and said he noticed the colonies with your queens were storing much faster than others. He went immediately to his red clover field, and saw bees working there freely."

Untested Queens, 75c each; six, $4; dozen, $7.50. Select Untested, $1 each; six, $5; dozen, $9. Safe arrival and satisfaction guaranteed. Descriptive circular free.

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☞ J.G. Goodner, of this State, writes me that "he prefers to pay $25 00 for a Rietsche Press rather than do without it."—A. G.

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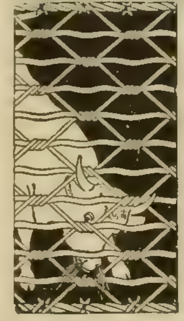
COILED SPRING FENCE



Closely Woven. Can not Sag. **Every wire** and **every twist** is **a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

30 DAYS FREE TRIAL

and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made--how it is galvanized--why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 85 MUNCIE, INDIANA.

Mention Bee Journal when writing.

Bargains in Second-hand Machinery and Tanks

1 Steam Pump.
1 Large Butter-Mixer.
1 100-gal. Churn.
1 16-ft. bbl. Skids.
2 Wooden Vats—8 to 16-ft. long, each.
50-ft. Heavy 1-in. Hose.

METAL TANKS

75-gal., 300-gal. (metal with wood-jacket), 400-gal. and 500-gal.

For particulars, address,

H. M. ARND,
191 SUPERIOR ST., CHICAGO, ILL.
Mention Bee Journal when writing.

CONVENTION NOTICES.

Chicago-Northwestern.—The Executive Committee of the Chicago-Northwestern Bee-Keepers' Association take great pleasure in making the following announcement:

Through the kindness of friends it is possible to hold the next convention of our Association in the fine hall known as "Brunt Hall," in the Bush Temple of Music, corner of Chicago Avenue and Clark Street, Chicago. This is the same hall where the National Association met last December. Arrangements have been made with the restaurant in the basement to serve good meals at very reasonable rates. The Revere House will lodge bee-keepers at their usual low rates. This hotel is at the corner of North Clark and Michigan Streets.

Dr. C. C. Miller writes: "I don't know how much I can do toward making or marring the convention, but, Providence permitting, I'll be there."

N. E. France says: "So far as I know now, I can come."

C. P. Dadant writes: "I promise to attend your convention if possible."

Let us have a full attendance of all the bee-people (ladies and gentlemen) within reach of Chicago. Come and see the great International Live Stock Exposition, and spend part of your time at the bee-keepers' convention.

The meetings will be as follows: Wednesday, Dec. 5, 10 a.m. to 12 m; 2 p.m. to 5:30 p.m.; and 7 p.m to 9:30 p.m. Thursday, Dec. 6, 9 a.m. to 12 m.; and 2 p.m. to 4 p.m.

QUESTION-BOX ALL THE TIME.

Everybody come and make this the biggest and best bee-keepers' convention ever held in Chicago. Reduced rates on all the railroads.

GEORGE W. YORK, Pres.
MRS. N. L STOW, Vice-Pres.
HERMAN F. MOORE, Sec.
Executive Committee.

Illinois.—The 16th annual session of the Illinois State Bee-Keepers' Association will be held in the Supreme Court Room in the State House, on Tuesday and Wednesday, Nov. 20 and 21, 1906. Railroad rates to annual sessions of the I.O.O.F. at Springfield, can be used by bee-keepers also as follows: An open rate of one fare plus 25 cents for the round trip to Springfield and return. This rate can be secured by any one desiring to come to Springfield on the date of ticket sale, the open rate having been made by all lines in the Central and Western Passenger Associations. Tickets can be purchased on Nov. 18, 19, 20 and 21, but must be used on the day of purchase. The return limit on tickets is Nov. 24.

Hotel rates, for board and lodging, $1.25 and upward. We expect the largest meeting the Association has ever had, as its membership is larger than ever before, and, furthermore, we expect to have with us Pres. C. P. Dadant, of the National; Pres. George W. York, of the Chicago-Northwestern; Pres. J. E. Johnson, of the Western Illinois; General Manager N. E. France, of the National; and R. A. Holekamp, Secretary of the Missouri State Bee-Keepers' Association. Let every member of our Association make an effort to be present, and bring a neighbor bee-keeper with him, assured of a good meeting if you will help to make it such. (Bring your wife, too.)

JAS. A. STONE, Sec.
R. R. 4, Springfield, Ill.

HOW TO GET MORE EGGS
Help your hens. Feed them fresh cut **green bone** and you'll get more eggs—you'll get eggs in winter when eggs are worth while. The **Standard Green Bone Cutter** prepares bone right for feeding, quickly—easily. Prices $8.80 and up; sold on **guarantee**—sent on **trial**. Write for catalog.
Standard Bone Cutter Co. Milford, Mass.

Hatch Chickens by Steam with the
EXCELSIOR INCUBATOR
Or WOODEN HEN
Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
GEO. H. STAHL, Quincy, Ill.
Send for free Catalogue.

Long, Good Advertising
27 years ago bee-keepers were surprised by the first Patent Bee-Smoker.
Bingham's Patented Smoker Improvements
Are dated 1878, 1882, 1892 and 1903.
6 percent Discount for October orders.
Any number, any size, copper or tin, delivered any time.
T. F. BINGHAM
Farwell, Mich.

FENCE Strongest Made
Made of **High Carbon** coiled wire. We have no **agents**. Sell direct to user at **factory prices on 30 days free trial.** We pay **all freight**. Catalog shows 37 styles and heights of farm and poultry fence. **It's free.** Buy direct. Write today
COILED SPRING FENCE CO.
Box 89 WINCHESTER, INDIANA.

Bargains Best Wisconsin Sections, per 1000—$4 00; No.2—$3 40; plain, 25c less. 7 percent discount in October on Root's and Danz. Hives, and other Root's Goods.
40A26t H. S. DUBY, ST. ANNE, ILL.

The Bee-Hive Clock

A $4.00 CLOCK FOR $2.50 ... With the American Bee Journal 1 Year—Both for Only $3.00

We have originated and had made specially for our readers, a bronzed-metal Clock, called "**The Bee-Hive Clock.**" It is 10¼ inches wide at the base, 9¾ inches high, and deep enough at the base to stand firmly on a mantel or elsewhere. It is a beautiful piece of work, and would be both ornamental and very useful in any house, and particularly in a bee-keeper's home.

The Clock part itself is warranted for 3 years to keep good time. So it is no plaything, but a beautiful and needful article for everyday use.

Clocks like "The Bee-Hive Clock" usually sell in the stores at from $4.00 to $5.00 each, but having them made for us in quantities enables us to offer them at $2.50 each by express, or with the American Bee Journal a year—both for only $3.00. Either Clock or Journal would make an ideal gift.

How to get "The Bee-Hive Clock" FREE

Send us **5 New Subscribers** to the Weekly American Bee Journal for one year, at $1.00 each, and we will send you this beautiful "Bee-Hive Clock" **FREE** (excepting express charges). Or, send us **4 New Subscribers** (at $1.00 each) and 50 cents—$4.50 in all. Or, **3 New Subscribers** (at $1.00 each) and $1.00—$4.00 in all. Or, **2 New Subscribers** (at $1.00 each) and $1.50—$3.50 in all.

BEE-HIVE CLOCK
SWEETHEARTS

Only $2.50, f.o.b. Chicago, by Express.
Weight, with packing, about 4 pounds.

What Dr. Miller Thinks of the Bee Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers.

C. C. MILLER.

Address all orders to GEORGE W. YORK & CO., 334 Dearborn St., CHICAGO, ILL.

Gloves for Handling
BEES

Something New.
Something You Want.

Our specially prepared Gloves soften the hands and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff. We furnish them without armlets or sleeves for using in sweeping, gardening, or general housework, driving or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white.

All the points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail, or with other goods, at the following low prices:

Bee-Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies	.35
Men's Gauntlets, fleece lined	.35
Ladies'	.35
Ladies' unlined, for wearing at night or during doing light housework	.40

Early Order Discounts on Bee-Supplies (excepting above and a few other articles) as follows:—

7 percent for cash with order before Oct. 1st
6 " " " " Nov. 1st
5 " " " " Dec. 1st
4 " " " " Jan. 1st
3 " " " " Feb. 1st

If you haven't our 1906 catalog, send for one and a free copy of the American Bee Keeper 50c a year). Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.

Mention Bee Journal when writing.

Honey and Beeswax

Chicago, Nov. 7.—The market is taking honey, both comb and extracted, in a very satisfactory way. The price of No. 1 to fancy comb is 15@16c; off grades, 1@2c per pound less. White extracted, 7½@8c; amber, 7c; dark, 6@6½c. All of this is governed by quality, condition, and package. Beeswax, 30c per pound.
R. A. Burnett & Co.

Kansas City, Nov. 8.—The demand for both comb and extracted honey is good, receipts light. We quote fancy white comb, 24 sections, at $3 25; No. 1, $3; No. 1 white and amber, $2.75. Extracted, white, per pound, 7c; amber, 6@6½c. Beeswax, per pound, 25c.
C. C. Clemons & Co.

Cincinnati, Oct. 20.—The demand for comb honey is good. No. 1, white, brings 14½c wholesale, and 16c retail, by the case. Off grades less from 2@3c per pound. White clover extracted brings in barrels, 8c per pound; in cans, 8½c; amber grades, light, 6c in barrels; dark, 5½c in barrels; in cans, ½c per pound more. Beeswax, 30c.
C. H. W. Weber.

Philadelphia, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission.
Wm. A. Selser.

New York, Oct. 9.—The demand for comb honey is very good, especially for fancy stock, and arrivals are now quite heavy. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12@13c; buckwheat at 11c per pound. Extracted is in good demand and prices are somewhat firmer. We quote California white at 7½c; light amber at 6½@7c, and amber at 6c per pound. Southern honey in half-barrels in good demand and finding ready sale at from 55@65c per gallon, according to quality. Beeswax is somewhat weaker, and 30c is about top price.
Hildreth & Segelken

Headquarters for Bee-Supplies

ROOT'S GOODS

At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

Will buy or sell you . . HONEY If you have any to sell, . . .

mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER CINCINNATI ...OHIO...

Office and Salesrooms, 2146-48 Central Ave. Warehouses: Freeman and Central Aves.

Denver, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
The Colo. Honey-Producers' Assn.

Cincinnati, Nov. 3.—The honey market is rather quiet at this date, owing to the market being flooded with comb honey; selling slowly at from 14@16c. Extracted amber honey sells at 5½@6½c. White and fancy grades find sale at from 7½@8½c. There is not so much moving as one might be led to believe. Beeswax is dragging at 29@30c for choice yellow.
The Fred W. Muth Co.

Indianapolis, Sept. 29.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Toledo, Oct. 8.—The market on comb honey remains firm. The demand is fair, and the receipts equal to the demand. Fancy white comb honey in a retail way brings 15@16c, with very little demand for low grades. Extracted white clover in barrels brings 7½@8½c; cans the same. Beeswax, 26@28c. Griggs Bros.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 South Water St. Chicago, Ill.

QUOTE US We Buy Car-loads of
Extracted Honey!
THE FRED W. MUTH CO., 51 Walnut St., Cincinnati, O.
41Atf Please mention the Bee Journal.

Cash for Beeswax
Till further notice, **30c cash** paid for pure, yellow beeswax, delivered here.
Frank G. Clark, 147 E. Kinzie St. Chicago, Ill.

WANTED TO BUY AT TOP PRICES
WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
Catalog Free
29Atf 1004 East Wash. Street, INDIANAPOLIS, IND.

HONEY! HONEY! HONEY!

Have you any to sell? If so, see us before selling. We pay highest Market Price for both Comb and Extracted Honey—also Beeswax. . . .

GRIGGS BROTHERS, 521 Monroe Street, Toledo, Ohio

Mention Bee Journal when writing.

DADANT'S FOUNDATION

IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best.

It will cost you no more than any other.

WORKING BEESWAX

We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN

265 & 267 Greenwich Street - NEW YORK, N. Y.

30Atf

AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL., NOV. 22, 1906 No. 47

APIARY OF T. F. BINGHAM, OF FARWELL, MICH.

APIARY OF J. H. REDMOND, OF BLUE ISLAND, ILL.
(See page 962)

Special Bargains

in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.
JOHN DOLL & SON, Proprietors,
Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

Dittmer's Foundation

is the best foundation for you to use, because it is tough, transparent, will not sag, and has the odor of pure beeswax.

WORKING WAX FOR CASH A SPECIALTY
This is the cheapest way for you to secure your foundation.

BEESWAX ALWAYS WANTED
Our warehouse is well filled with all kinds of **Bee-Keepers' Supplies.**
5 percent Discount during November.

GUS DITTMER, Augusta, Wisconsin

IF YOU WANT TO KEEP POSTED UPON THE
GREATEST ∗ POLITICAL ∗ QUESTION
OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, 50 cents for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

COILED SPRING FENCE

Closely Woven. Can not Sag. **Every wire** and **every twist** is **a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

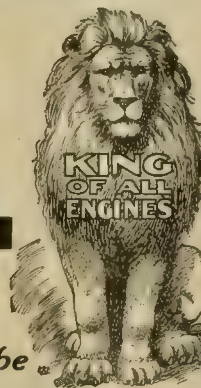
30 DAYS FREE TRIAL
and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made--how it is galvanized--why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 85 MUNCIE, INDIANA.

Wisconsin Basswood Sections

And Prompt Shipments
Is what we are making for our customers.
— DOVETAILED HIVES AND SHIPPING-CASES —
We carry a full line of SUPPLIES. Ask for Catalog.
THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers



The
Lion Engine

is sold direct from FACTORY to USER

Acting on the theory that "testing is proving" we will send any responsible person, on certain very easy conditions, one of our three h. p. gas or gasoline engines on **10 days test trial.**

This engine is **no experiment,** but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

Our igniter and mixer are of the most simple and reliable character. The gasoline is always properly vaporized and the igniter point never comes together unless a spark is required.

The fly ball type of governor is used, which automatically controls the exhaust, igniter and the gasoline; it also allows the speed to be changed from 100 to 600 revolutions per minute while the engine is in motion—**a very superior feature.**

LION GAS OR GASOLINE ENGINES
are simple in construction and
EASY TO OPERATE

They are used for all purposes where power is required for operating private electric-lighting plants, small factories, printing offices; farm machinery, such as cream separators, feed-grinders, corn shellers, wood-sawing machines, etc., and for a thousand and one other purposes.

WRITE US A LETTER LIKE THIS:

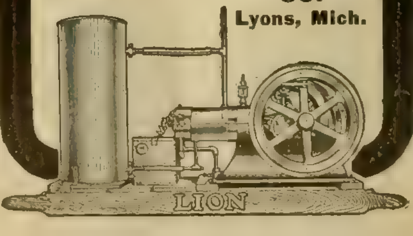
LYONS ENGINE CO.,
Lyons, Mich.

Gentlemen: I am about to purchase a gas or gasoline engine for__________purposes and wish you to send me full particulars about your approval offer as advertised in American Bee Journal. Yours very truly,

Name__________
Town__________
State__________
Street No. or P. O. Box__________
R. F. D.__________

When writing, please **state definitely** for what purpose you wish to use this engine and whether gas or gasoline is to be used for fuel. **This information is very important to us.** Please remember we send the engine, **not the engine agent.**

LYONS ENGINE CO.
Lyons, Mich.



ITALIAN QUEENS

Too late to deliver them? Yes! But not too late to **begin to get ready for next spring!** I give personal attention to correspondence. My queens are guaranteed. Write at once to

ROBERT B. McCAIN,
2Atf **OSWEGO, ILL.** R.D. 1.

Mention Bee Journal when writing.

WE SELL ROOT'S GOODS IN MICHIGAN

Let us quote you prices on Sections, Hives, Foundation, etc., as we can save you time and freight. **Beeswax Wanted for Cash.**

M. H. HUNT & SON,
BELL BRANCH, WAYNE CO., MICH

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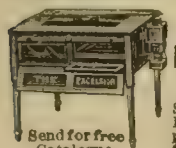

Send for free Catalogue.

Hatch Chickens by Steam with the

EXCELSIOR INCUBATOR Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.
GEO. H. STAHL, Quincy, Ill.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press, $1.50—cash with order. Address,

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

☞J.G. Goodner, of this State, writes me that "he prefers to pay $25 00 for a Rietsche Press rather than do without it."—A. G.

Mention Bee Journal when writing.

CAPON
TOOLS

Big Profits in Capons

Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.

Gape Worm Extractor	25c
Poultry Marker	25c
French Killing Knife	50c
Capon Book Free.	

G. P. Pilling & Son, **Philadelphia, Pa.**

Mention Bee Journal when writing.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send $1.20 to

Prof. A. J. Cook, Claremont, Cal.,

—FOR HIS—

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

Passenger Fares Reduced Over the Nickel Plate Road

Effective November 1, 1906, and until otherwise advised, the local passenger fares between all stations on the Nickel Plate Road are reduced from former rates charged. The reduced fares from Chicago to principal points are as follows:

Chicago to Buffalo, first class. $10.50; Erie, $8.55; Cleveland, $6.75; Bellevue, $6 35; Fostoria, $5.70; Findlay, $5.50; Fort Wayne, $3.75.

Second-class, Chicago to Buffalo, $9.50. Corresponding reductions apply to all other intermediate points, including points on connecting lines, as also to many points beyond Buffalo reached by our through car lines.

City Ticket Office, 107 Adams Street, Auditorium Annex, Chicago, and stations at La Salle Street, 31st Street, Englewood, and Grand Crossing. Telephones Central 2057 and 6172.

31—45A4t

Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8 00	$ .95	$ 5 00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10.00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18 50	2.20	11.00	19.00

Straight 5-band Golden Breeders	$10.00
Select Golden Breeders	3.00
" 3-band "	3.00
" Carniolan "	3 10
" Caucasian "	3.25

1-frame Nucleus (no queen)	$1.50
2-frame " "	2.00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive	6.00

Bees by the pound in light shipping-boxes, $1.00 per pound.
Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

Mention Bee Journal when writing.

YOU NEED THIS BOOK

The publishers of the Agricultural Epitomist, Spencer, Indiana, (the only agricultural paper that is edited and printed on a farm) have made arrangements by which they can offer with each three years' subscription to their paper at 50 cents, a copy of

ROPP'S COMMERCIAL CALCULATOR

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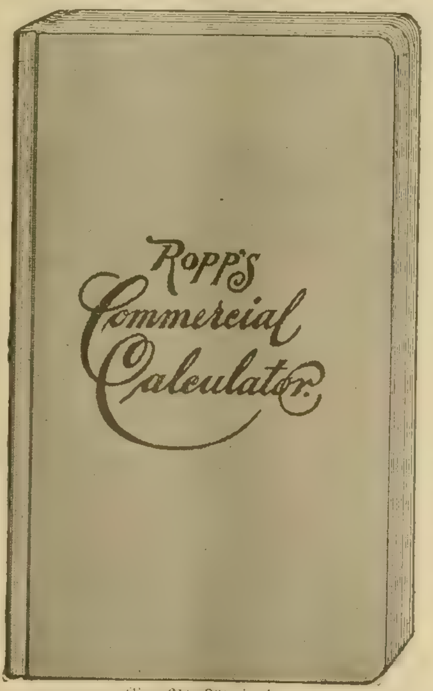

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AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

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GEORGE W. YORK, Editor CHICAGO, ILL., NOVEMBER 22, 1906 Vol. XLVI—No. 47

Editorial Notes and Comments

The National at San Antonio

The convention for 1906 is over. It was not quite as large in attendance as was the Chicago meeting of the National last year, but that was to be expected, in view of the place where it was held, and the fact that 1906 has been a very poor honey-year quite generally, and particularly in Texas. In the absence of Secretary Hutchinson, the Editor of the American Bee Journal was elected secretary *pro tem.* There were present about 50 bee-keepers from outside of that State. One came from Utah, one from California, and 3 from New York. In all 14 States were represented. And 9 of them came in the special car that started from Chicago.

It was a good meeting. It was harmonious throughout. It wouldn't have been a comfortable place for any trouble-makers. It must be that such remained at home this time, as none appeared.

A number of good moves for the benefit of bee-keepers were launched. Perhaps the most important was the beginning of an effort to get lower freight-rates on honey, bees and beeswax. If success is won in this alone, it will justify the existence of the National, and will be a benefit to every bee-keeper who has any honey, bees or beeswax to ship. The committee appointed to look after this matter are, General Manager N. E. France, of Wisconsin, Fred W. Muth, of Ohio, and R. A. Holekamp, of Missouri. It will not be the fault of these men if lower freight-rates are not secured, as they will make every effort possible.

The San Antonio convention was almost wholly a question-box convention. There were only 3 papers read, and they were fine ones, too.

Just as rapidly as possible the pamphlet report of the San Antonio convention will be gotten up. It is mailed only to members. If you are not a member now, and want the report in pamphlet form, send $1.00 for a year's dues to the General Manager, N. E. France, Platteville, Wis.

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The National Election of Officers

It is being held this month. There will be a President, a Vice-President, a Secretary, a Treasurer and General Manager, and three Directors, to be elected.

Mr. C. P. Dadant, who is president now, and also W. Z. Hutchinson, who is secretary at present, positively refuse a re-election, so it will be necessary to vote for others for those two positions.

It seems there are a few members who do not think that bee-supply dealers and manufacturers should hold offices in the National. Well, the way to prevent that is for the majority not to vote for such. But just *why* those mentioned, if bee-keepers, should not hold office, is not very clear. We have yet to see a good reason advanced for such prohibition from office. For about 15 years we have been in a good place to know pretty well just what has been going on in the National, and we have yet to see a single instance where an officer who was a bee-supply dealer or manufacturer failed to do his duty, or was in any way a detriment to the National. And, above all, we don't think they should be criticised when in office, for they would not have any offices if it were not that they were honestly elected by a majority of the ballots cast. If we are any judge, all the bee-supply dealers and manufacturers who have held office, or are now in office, are fully equal for such positions, to those who are "kicking" against them.

What is needed is for all, who want to see bee-keeping put on a more substantial business basis, to turn in and push for a large membership in the National. The few, especially in the East, who are trying to overthrow the National, are not greatly interested in honey-production anyway, so far as we can learn. At any rate, bee-keeping with them is a side-line, so their opposition should hardly be considered. But, on the contrary, the good and faithful work of those now in the management of the National should be encouraged, and every bee-keeper worthy the name should do everything possible to make our great National organization greater each succeeding year. The bee-papers, with but a single exception, we believe, are doing their share toward helping to build up the National and make it a power in the land.

◆

Extra Combs of Honey

This Journal has been insistent that extra combs of honey should be secured, for the sake of ministering to the future needs of the bees. As a general rule, the smaller the hives used the larger should be the stock of such combs. They can, of course, not be secured at this time of year when all gathering has ceased. Too late for that. It is not too late, however, to say a word as to the disposal of some of these combs. It is entirely in the range of possibility that some, especially of those using small hives, found every comb in each hive entirely filled, somewhere about the first of September, and settled down that nothing further was needed for the winter, and that the extra combs were to be kept for spring use. But although the combs were entirely filled, there was much brood present, and later examination, after the cells were emptied of all brood, would show one or several combs with only a little honey in them.

In some cases there may be a possible danger of starvation before the winter is over. It is a bad thing to disturb colonies so late as now; it is a worse thing to let them starve. Then, too, it is perhaps better to disturb them now than to disturb them early in the spring; so if a colony is not heavy enough so that you feel sure it will be all right until plenty of flying days come, better give it one or more of the extra combs of honey now. Then make up your mind you will see to the matter earlier another year.

Remember that the best place to keep extra combs of honey is right in the hive so long as there is room for them there.

◆

The Bee-Inspectors' Meeting

This, we think, was a surprise to the majority of those who attended it. It was wonderfully interesting. It was held on Monday following the National meeting. There were some 50 inspectors and other bee-keepers present. Dr. Phillips, Acting in Charge of Apiculture, at Washington, D. C., presided. Dr. G. F. White, bacteriologist of the Bureau of Animal Industry, in Washington, D. C., and Prof. John M. Rankin, representing the apicultural work of the Government at Chico, Calif., were also present. All three of the Government officials took a large and leading part in the meeting.

It was the second gathering of bee-disease inspectors held in this country. The first met in Syracuse, N. Y., where the American Bee-Inspector's Association was organized, in 1903, with N. E. France as president, N. L. Stevens as vice-president, W. Z. Hutchinson as secretary, and W. D. Wright as treasurer.

A committee to prepare a constitution was selected at San Antonio.

A fuller report of this very important meeting of inspectors will be given in these columns later.

Miscellaneous News-Items

S. P. C. A. and Bees in Show-Window.—The following item appears in a Chicago daily:

> PITTSBURG, Oct. 7.—Because confinement of bees in a show-window was held cruel, as the bees had no chance to take exercise, G. K. Stevenson, a grocer, will send them out to the country for some fresh air to-morrow. An Agent of the Society for Prevention of Cruelty to Animals saw the grocer's display, and warned him to give the bees a change if he would avoid prosecution.

There is such a thing as being over zealous in a good cause. The next thing the S. P. C. A. will be insisting that instead of allowing the queen to be imprisoned in the hive year in and year out, she shall be led out for a daily promenade whenever the weather is fine. If a temporary sojourn in a window for a few days is so bad for bees, how about keeping a canary from flying all its lifetime?

◆

The Apiary of J. H. Redmond appears in one of the pictures on the first page this week. Mr. R. wrote us as follows concerning it, Oct. 19:

> EDITOR AMERICAN BEE JOURNAL:—I have been interested in bees from a small boy. I have seen more men go into the bee-business and again "lose out," or what I call "let them die out for the want of proper attention," than any other man in the State. It takes only about 5 years to see when a man goes into the bee-business what he will do. Some who have failed claim they did not have time, but this is no excuse, for a man who is a natural bee-keeper has plenty of time to look after bees, and is glad to do it. I know men who keep bees that do not go near them for months—they are not bee-keepers; they only let bees keep themselves.
>
> I am not at home a quarter of the time, yet I have plenty of time to look after my bees, and a man who does not do so, would do the bees a great favor to give them to some one who will care for them.
>
> I have but 16 colonies, which are about all I can handle on a city lot 50x140 feet, and a poultry yard on one side of it. I never cared to keep bees on a large scale, for my work is such that I can not depend upon a day ahead I could count in Blue Island, a few years ago 600 colonies of bees, and to-day 100 will more than cover them all.
>
> I have only one son, 14 years old. He, my wife, and myself tip the scales at over 600 pounds. So you can see that bees and honey have not stunted us. JOHN H. REDMOND.

◆

The Apiarian Premiums awarded at the late Illinois State Fair, with Mr. C. P. Dadant as judge, are as follows:

Display of comb honey, 500 pounds or more	$20	$	$15	$10
Collection of labeled cases containing 12 pounds or more of white honey	5	3	8	
Same of dark honey	8	5	3	
Case of white clover comb honey	2		4	3
Case of sweet clover comb honey	3		2	4
Case of basswood comb honey	2		4	3
Case of amber comb honey	4	3	2	
Display of samples extracted honey	2	3	5	
Display of extracted honey, 500 pounds or more	15	20		10
Honey extracting on grounds	2	3	5	
Frame of comb honey for extracting	2	3	5	
Display of candied honey, 300 pounds or more	15	20		10
Display of beeswax	10	15	5	
Italian bees (dark)	3	2	4	
Italian bees (golden)	3		2	4
Carniolan bees	4	2		3
Honey-vinegar	4		3	2
Display of designs in honey	12	8	15	
Display of designs in beeswax	12	20	8	

The first column of premium figures above are the awards of Chas. Becker; the second column, Jas. A. Stone & Son; the third, Aaron Coppin and wife; and the fourth, Geo. M. Rumler.

◆

Apiary of T. F. Bingham.—When sending the photograph of the engraving on the first page, Mr. Bingham wrote as follows:

> FRIEND YORK:—I am sending the picture of one corner of the original closed-end-frame apiary with the bees working. My bee-keeping is not much with me, for I have so many things to look after that it is neglected. Yet I probably have the most original apiary in the United States. I often wonder how the lady bee-keepers get along with the massive hives generally used. Perhaps the hive I use is not best for a 4-visits-a-year apiary, but I get along easily with it, and my experiments amuse me. I have made a few of them this year in the non-swarming-fad line, that can not be judged until another winter and summer have gone.
>
> This is my first run for extracted honey since I located here. It came as a result of a late, cool spring. It has paid well enough, and has been little trouble. I have gathered a few facts not in the books—of no great consequence, but interesting to me.
>
> T. F. BINGHAM.

◆

PUSSY WILLOW

By the brook that skirts the pasture
Pussy willows scent the breeze;
Long before the sleepy linden
Wakes to tempt the honey-bees.
April woods are bare and brown
But the willows, pussy willows,
Shake their dainty, fluffy pillows,
Soft as beds of eider-down.

All the wealth of love and service
Are not lavished on the great,
In the scale of the Eternal
They are least who lag and wait.
Bare and brown the giant trees,
But the willows, pussy willows,
Early shake their golden pillows,
Serving hungry honey-bees.

—EUGENE SECOR,
in Successful Farming.

* * *

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2.25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

◆

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

◆

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Contributed Articles

Bee-Keepers Making Their Own Hives

BY G. C. GREINER

With the close of the honey season, and the finishing of the necessary fall work—such as uniting weak colonies, feeding up where necessary, and finally the packing for winter—all outdoor work in the apiary ceases. This gives the bee-keeper an acceptable opportunity to improve the cold and stormy days of the coming winter by planning and preparing for next season's work; and as the manufacture of our hives generally forms one of the main features at this time, a few hints in regard to this part of our pursuit may not be out of place.

Ever since the appearance of Mr. Latham's article, on page 74, giving his advice and instructions how to manufacture bee-hives out of cast-away grocery boxes, I have been wondering what portion of all the bee-keeping fraternity agreed with Mr. L.'s ideas, and managed their supply business in the same way. I expected that some one of the older comrades would say something as a reply to that article, but having failed to notice anything of the kind in any of the bee-papers, I will therefore take it upon myself to make a few comments by way of a friendly criticism on the above-mentioned article.

Mr. Latham's literary abilities and sound judgment in general constitute him a terrible foe to fight against, and I would not dare to contradict him, unless I had all the argument and at least nine-tenths of all the bee-keepers on my side. But this being the case, as I believe, I will venture to present the matter in its true light, as seen from different standpoints.

In former years I dabbled a little in the supply business, manufacturing hives and selling on the road in numbers ranging anywhere from 1 to 15 and 20 hives at a time. At other times conditions were such that I found it advisable to purchase hives in the flat from our regular bee-supply establishments. I am thus enabled to draw an unbiased conclusion, based on actual experience and observation.

To the experienced bee-keeper Mr. L.'s advice has little weight; so has mine; but to the beginner, or the contemplating aspirant, who may be led astray by Mr. L.'s questionable advice, I would say: Don't, don't follow his advice, for you will surely come to grief; endless annoyances will be your lot if you do.

It seems Mr. L. does not take the right view of economy, and overlooks uniformity of all our bee-supplies entirely. These are the two main features which the bee-keeper should take into consideration when buying or manufacturing his supplies.

During my lifetime of 60 years or over, I have demolished many, very many, grocery and dry-goods boxes; in fact, I keep some of such material on hand all the time. For some certain purposes—hen-coops and feed-boxes, for instance—it is all right, and can be used to good advantage; but for bee-hives—never! I can not see one favorable point in using such boxes for bee-hives. I may be a little deceived, but I always flattered myself with being endowed by Nature with a somewhat mechanical turn of mind. I always took pride in doing mechanical work in workmanlike manner, but I am not mechanic enough to make something out of nothing, and trying to transform grocery boxes into bee-hives comes the next thing to it.

While writing this, I am looking at a number of chaff-hives in front of my honey-house, near the center of my apiary. They were made by hand many years ago, out of dry-goods boxes. Having been kept well painted, and well made in the beginning, they are now in a prime state of preservation, and the passer-by would, without making a close examination, take them to be regular factory-made goods; but if I had to do that work over again, I would use new, dressed lumber, and have it fitted by machinery. I would make this change, not so much because I would get better hives, but as a matter of economy. It does not pay to spend our time fitting, measuring, sizing, etc., such lumber as these boxes furnish. Taking boxes to pieces, drawing nails and getting the material ready to use, is a long, tedious job, and when we get it, it is of all lengths, breadths, and thicknesses, always wasting more or less in cutting up. To tinker up a very limited number of hives, as Mr. L. outlined, might do for an experiment, but to manufacture them by the 50's or 100's in a profitable way, we should have to employ more systematic and businesslike means. Even if I intended to make only a few hives, I would purchase new lumber for them; the work can be done much quicker and better, and, when it is done, will be more respectable in appearance. The many photographs which have been presented to us lately by the various bee-papers, are sufficient proof that the great majority of bee-keepers consider appearance a desirable feature.

The second point—perfect uniformity of all our bee-fixtures—is of great importance. Every bee-keeper who has had for any length of time large numbers of colonies under his care, knows how necessary it is that, for speedy and convenient management, everything in the line of hives and appliances must be of exact uniformity. It is not sufficient that every brood-frame should fit every hive, but every adjustable part that helps to make up the complete hive should be an exact counterpart of every other one of its kind, and this can only be accomplished when every single piece used in the construction of the hive is as nearly like its mate as measurement can make it.

In speaking on this subject, a friend said in one of our bee-papers some time ago: "We must do our work within 1/32 of an inch." This is all right as far as it goes, but it doesn't go far enough; it may answer in some cases, but in many instances we have to come within a hair's breadth, if we expect to have our work give satisfaction.

The fundamental principle in all our hive-making is to adopt a standard thickness of our lumber, and then stick rigidly to it year after year. Our common country planing mills, where mostly building lumber is dressed, do their work seldom, if ever, precise enough for hive-making. To get lumber dressed as ordered, we have to call on some of our bee-supply factories, or some establishment where machinery is required to do close work. In testing the thickness of lumber I am not satisfied to measure one single board. If, for instance, ¾ inch is required, I take 4 boards, squeeze them tightly together and measure, and if the 4 measure exactly 3 inches, I call them correct thickness. If we then adhere to the various sizes and dimensions otherwise, we can reasonably expect that passable uniformity will be the result.

As an illustration, that uniformity of all our bee-fixtures is not only a notional gratification to the eye, but an actual saving of time, I will give only this one instance:

Suppose we have 2 rows of hives which we wish to examine, one after another, as we frequently do during spring management. Commencing with the first hive of the front row, we take its cover and set it against the off side of the hive. When ready for the second hive, we take its cover and place it on the first hive to take the place of the first cover. The third cover is placed in the same way on the second hive, the fourth cover on the third hive, and so on all along the line, until the last hive is reached. Then we step back to the second row and take its first cover to the last hive in front. This prepares the way for the exchange of covers on the second row, and by the time the last hive is reached, which brings us back to our starting point, we simply let the first cover make up the deficiency on the last hive of the second row. In this way every cover, except the first one, is handled only once, saving not only precious time, but many motions of the operator.

Now, Mr. Latham may say: "Pretty small affair to use as an argument." I admit it is a very small affair when handling one or two hives, but where we have to do the work for hundreds, perhaps thousands of colonies, that "small affair" is multiplied just so many times; and when we have to repeat the same operation two, three or more times, it is multiplied that many times more. And that is not all. There are many other operations during the season, which can be performed to better advantage and in less time on account of uniformity in all our outfits. As said before, in handling one or two hives the difference, one way or the other, may be very small, amounting to seconds only; but the many multiplications make them grow to minutes, the minutes to hours, and who knows, if correct accounts were kept, but what these little savings would amount to days, possibly weeks, during the season?

La Salle, N. Y.

How Many Colonies to Keep

BY H. H. MOE

On page 880, Mr. Doolittle has an interesting article on "How Many Colonies to Become Well-to-Do," and requests Messrs. Miller, Dadant, etc., to reply. Personal experience from some of us "lesser lights" might be of interest. Before I give my personal views, however (it will be purely my personal experience and views, which, of course, may apply to no else), I would like to make clear a few points, important in the consideration of the subject.

To begin with, it would seem plain that if only dollars and cents were in view, bee-keeping would not be an attractive occupation. This would seem plain from Mr. Doolittle's quotations, and conceded in general. Of course, the point is not quite clear as to how many dollars, exactly, are needed to be well-to-do.

A paper by Mr. Hutchinson was read at our State convention two or three years ago. I did not feel that all the advice given by Mr. Hutchinson was financially sound or good. This point is more plainly brought forward in the recent edition of his book, "Advanced Bee Culture," in "What will best mix with bee-keeping?" Mr. Hutchinson's reply is, "More bees." In spite of what Mr. Hutchinson says about the prop, I am obliged to keep the prop for good and sufficient reasons. But I also want to keep my bees. I also further notice that most bee-keepers keep a prop. Mr. Hutchinson is an editor, and used to sell queens. Dadant makes comb foundation and handles supplies. Doolittle is a queen-breeder, from which I understand he derives no small revenue, and is also a most interesting writer.

Why should *I* throw away the prop, or my bees? True, my movements among bees may be a little slow, as compared with an expert; but it is because I want to see, to study, to observe, and experiment. In other words, I like to live, and I like to live among bees. The quotation Doolittle gives fits my case exactly, and I think the quotation is most beautiful. I like to live among bees, but I must also pay my bills—hence, the need of a prop. From 70 to 100 colonies are all I can handle to advantage. I want time to listen to their music, and watch them at their work.

It would be hard now for me to do without the honey which necessitate bees. Nor could I do without my bees.

Of course, locality, etc., have much to do with the considerations of this question. I think a man with a family would need $700 to $1000 a year to live comfortably, and also to have a little for a rainy day. With bees alone I doubt if a man could be successful in this locality. But this country is a land of "milk and honey." Dairying is decidedly in the lead, when it comes to making money by the farmers. Now, I want to assure bee-keepers that milk goes nicely with honey—particularly plenty of rich cream. Further, I want to remind Mr. Hutchinson that according to the Good Book, the land of milk and honey is the ideal country. (Read the Bible and see if I am not correct.) Then if you still have any doubts, come here and I will prove it to you. If I had depended upon my bees the past season, I believe I should have been decidedly without a prop. Seventy colonies in this locality the past season would not have yielded $200 at the best, and I don't believe I could live on that.

Nor do I wish to follow Mr. Hutchinson's advice to keep the prop and discard bee-keeping. I have, as a rule, found bee-keepers interesting people, clean and intelligent, and I want as much of both as I can get (together with a *living*). I know one's occupation influences one. I want the beautiful and wholesome influence of bee-keeping.

But I have not touched upon the most interesting field of Nature-study that bee-keeping is. I have almost come to regard it as necessary to successful bee-keeping. For instance, there has been published a lot of interesting play-things from a not-far-away bee-keeper. It is a "two-queen plan," and the real purpose, as I understand it, is to get strong colonies. The plan is given as a sure road to wealth (?). Well, a year ago the past summer, when the plan first came to my attention, I had the ideal condition so strongly advocated by the "two-queen plan." Every colony crowded with bees and bubbling over. All during July this condition existed, and July ought to be a honey-month. But it was not, and all my bees were *consumers*, and often *not producers*. Thus a direct loss, and not a gain. But the study of honey-conditions and the bees were equally most interesting.

Don't for a minute forget that the bees have helped "to clothe my back, put food in my mouth, and given me conveniences to travel with," also comfort and happiness.

Woodford, Wis.

Wintering Bees—Hearing

BY GRANT STANLEY

As wintering bees on summer stands is probably best for the majority of bee-keepers, it is very important that we see that our bees have plenty of well-sealed stores at the approach of winter. There is little danger, indeed, of their having too much in an ordinary brood-chamber. Bees certainly will not rear brood when there is scarcely sufficient stores in the hive to carry the colony through until such time as they can gather for themselves, and, of course, they have no knowledge of being assisted by their thoughtless owner. More bees die of starvation in wintering than from all other causes combined. Let us remember that in order to have strong, prosperous colonies in spring, it will be necessary to provide the conditions by which this is brought about—in fact, summer conditions must be manifest as near as possible—warmth and food. We know that during the summer months the hives are crowded with bees, for the reason of natural warmth and food, so that if we desire strong colonies in spring we must provide for it the previous fall. More harm than good will result by feeding bees in early spring to stimulate brood-rearing, as by exposing the colony to the drafts of cold air daily will result in chilled brood, pickled brood, and, indeed, many other diseases of which probably we have never dreamed.

PAINTING HIVES.

Bees will winter better in unpainted hives than in those painted. The unpainted hive is more porous, and thus permits the moisture to pass off more readily. I wintered 2 colonies a few years ago in unpainted hives, and there was not a drop of moisture accumulated in those 2 hives throughout the entire winter, and the bees came out in spring in the very pink of condition. I believe this is also the experience of Dr. Miller.

I prefer all hives painted, however, if for nothing more than appearance alone, while the wearing qualities are also a large consideration. I don't know of a more pretty sight than hives painted white, and properly arranged on a well-kept lawn.

DO BEES HEAR?

Considerable mention has been made through the various bee-papers recently as to whether bees hear or not, some very strong theories being advanced in both directions. The editor of Gleanings in Bee Culture would have us believe that the various instances reported of bees hearing are not proof, as they may acquire all this by scent. Well, if this is true, they are certainly fine "scenters." If they can not hear, will some one tell us why the piping of the young queen in its cell takes place, as I don't see where the scent factor comes in here, where the young queens are sealed up in the cells. Is this instinct given to the young queens so that the bee-keeper can place his ear to the hive and be able to know when she will come forth, or is it intended for the colony?

Another thing: If you imprison a bee on the comb with your finger in such a way that it will set up that peculiar sort of buzz, several bees will make for the imprisoned bee instantly, and possibly dozens more make for the face of the bee-keeper, while if the bee is imprisoned without the buzz being manifest, no attention is paid to it.

Nisbet, Pa.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Moving Bees

Being anything but a nomad, I surprise myself when I recall the experience which has been forced on me in moving bees. Sleds—than which nothing is more handy—all kinds of wagons, from the honey-wagon to the hay-wagon, railroads and steamboats, each and all have been called into requisition, as the case demanded. Now, do not get excited through imaginary visions of some new method of moving about to be brought to light.

I have to offer neither patented plans nor implements on which I hope to reap a royalty. I am so much indebted to the bee-keepers at large, that should I stumble on anything new under the sun, or any particularly bright idea, I should feel obligated to give it freely to the public, knowing full well that I had received my pay with usury long ago.

To lay down a certain system for moving bees is out of the question, as each case has its peculiar variations. These variations, most probably, largely constitute a part of the pleasure to be found in bee-keeping.

Were one possessed of a preferred system, it would be like "casting pearls before swine" to offer it to an average teamster, such as one picks up at random over the country. It's an exception if he does not "know it all!" What does a bee-keeper know, especially a woman, about loading and unloading, and teaming in general, anyhow? He is a past grand-master in the art of handling bees, and it's "big I" and "little U" until some disaster overtakes the expedition, and matters are simply reversed, and the unfortunate apiarist is most suddenly in demand at all points. His stock of wisdom and judgment soars skyward many points, like a flash, in the estimation of ye frightened and frenzied driver.

At this stage of proceedings the apiarist may consider himself exceedingly fortunate, if after a few exasperated—worse than useless because harmful—efforts on the part of the assistant, who is by this time not only humiliated but disgusted in consequence if said helper does not "unhook" and leave without ceremony.

Frequently such a character is not content with the injury which he himself can, and does, inflict, but seems to have a personal revenge to satisfy, and will use his influence to the best of his ability not only to prevent others from aiding you, but to make you trouble in general. Thus, an endless chain of misfortunes springs from a single mishap.

March 1 brings about many changes; perhaps it's to be in the "big parade" that the changing of locations is usually deferred until spring. (I've sometimes questioned whether the extremely popular habit of putting off until to-morrow had anything to do with classifying this work with that necessarily done in the spring.) Certain it is, at that season, we attack all manner of work with renewed vim, possibly because all things around us are along with the new year, springing into new life, and as results of the coming fray are yet behind the misty veil of the unknown future, they of course are, more especially to the bee-keeper, promising. Oh, but it's so natural to wait for spring and join hands with Nature and promenade all.

Admitted there are good reasons for postponing the moving of bees until spring, prominent among which is the fact of the combs being light from the consumption of the winter stores, and brood-rearing not yet in an advanced stage. But how about the roads? Are they not most frequently bad beyond description? Last spring they outgeneraled the best of them, and ruled that locomotion (on country roads) be narrowed down to horseback riding, and at the last extreme to "foot-back" business. Largely on this account, and partly because we can expect more pleasant weather, we are trying the experiment of changing locations in the fall of the year.

Where cellar-wintering is practised, the moving of an apiary is not such a formidable task. To begin with, all hands are more in practise and on the alert for all the possible adverse happenings which are liable to present themselves in a more or less forcible manner. Then, too, the implements and all connected with this work are mostly in readiness, and are easily "come-at-able." But where colonies remain on the same stands winter and summer for a stretch of years, and "the spirit moves" for a change—there, and then, you are introduced to the "tug o' war." The number of sprung, or warped and rotten bottom-boards which refuse to bear their own weight is truly surprising, and these furnish such grand opportunities for the legions to pour forth on the defensive!

About this time resolutions in regard to practical and substantial foundations are in order; the same "are born but to die" during the push of the following swarming season. Moving an apiary is much like a general house-cleaning, a seemingly necessary nuisance, which, viewed from the distance, is a terrible bug-a-boo, but which often turns out to be a good thing all around after all.

Many things over which the apiarist has no control direct, determine or compel a move, chief among which are: *A complete change of character* of the territory; an *over-crowded* condition of the same; a change of tenants or owners of the land on which the apiary stands; unreasonably disagreeable neighbors; and other minor considerations. (The mention of disagreeable neighbors does not necessarily imply that the bee-keeper is always agreeable. However, it's safe to affirm that the average bee-keeper will put up with many discomforts and make-shift plans rather than to go a-gipsying.)

Because renters are more liable to move than land-owners, one is lucky to secure a location on which the owner of the land himself resides. All else being agreeable, the risk of compulsory move is considerably lessened.

By moving in the fall we can congratulate ourselves on escaping not only the mud, but the wintry, pneumonia-producing blasts of March as well. Mud and snow, on which to move bees, are all right provided the road is level and not cut into ruts and holes, as well as sidling places having been formed by continued soft weather and heavy hauling. Both mud and snow serve as a cushion to break the jolts as does a bed of dust. To be sure, a liberal coat of the latter heightens our appreciation of a bath—in fact, renders a free use of the same unavoidable. But a bath always pays for the trouble in the way of refreshing effects, the returns coming in on the spot accompanied with a good rate of interest. And while we are contending with the dust, we are evading that slipping and sliding and "stick in the mud" experince which always attends teaming in mud and snow. The difference in the weather would decide in favor of fall moving. Bustling March keeps one hustling if he succeeds in keeping fingers and toes from tingling.

What more quieting than our lovely autumn days? Basking in the warm, golden sunshine, enveloped in the hazy, mellow atmosphere, scarcely disturbed by the slightest zephyr, one is sorely tempted to follow Nature's ways as she seems to be dozing or catching the first naps of the long winter's sleep beneath her newly-made coverlet of forest leaves. What more fitting than that these quiet, drowsy days should follow the arduous ones of the more active season? May those of us who may live to a ripe old age, find the autumn of our lives as peaceful and beautiful.

For all this coddling and coaxing to enter into this delightfully dreamless sleep, I am awake to the cost of moving the bees. Cost in time, labor and money, and I might add patience. Many times when things go at a snail's pace, and everything lags but Old Time, and he takes wing and flies, I long to find an electrical button to push, and fire more ginger into the hired-man.

Right here is room for a new invention. Doubly trying are matters if the moving has been occasioned by the silly whims of some ignorant and ofttimes disinterested person. Whims which, nine times out of ten, are totally without foundation, the mere entertainment of which would be laughable were it not for serious consequences brought about by their existence.

Is Opposition to Bees Dying Out?

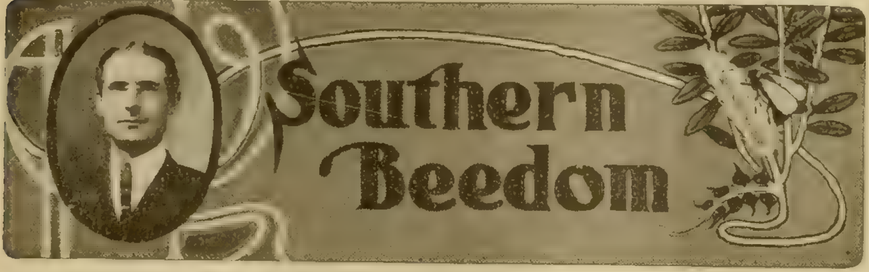
Thinking of these whims brings to mind a question I have ofttimes (of late) thought I would like to ask the bee-keeping friends. Or, rather, I would like to hear some answers to this query: Is bitter, *unreasonable antagonism* toward bees on the wane? I sometimes flatter myself that it is dwindling, or slowly dying out. Fruitculturists have greatly assisted in ameliorating or softening this feeling. They find bees a necessity to their venture. Lo, these many years, have friendly counsellors to horticulturists preached the advisability of keeping a few bees as aids to their enterprise; however, outsiders had a sneaking notion that the bees were kept mostly for honey. Just now the tables seem to be turning, and the idea that they are kept mostly for a good setting of fruit appears to be getting its right o' way. This year apples in this locality are very faulty, and I heard the Eastern buyers advising the use of the sprayer next season; and I was more than pleased to hear them caution about it's use in time of blossoming. The expression, "You'll kill the bees, and they are your best friends," was quite often used.

Occasionally I am solicited—*solicited, mind you*—to establish an apiary in proximity to some orchardist; and that, too, in neighborhoods where only a few years ago such an undertaking would have been treated with disdain, and had the people the power, they perhaps would have used me and my apiary for a foot-ball.

What wonder I am anxious to learn if things are coming my way, generally speaking; or, is the change only in my individual imagination?

(Mrs.) Mary E. Null.

Miami, Mo.



Southern Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Mr. Chambers and His Helpers

Mr. Chambers has this to say further regarding his "helpers" shown in the picture on page 934:

In the group the oldest is Edward Lafayette, named after the great Frenchman, is 14 years old, and I would rather have him in the apiary than a great many so-called experts. He is a ready hand at anything, and is also fairly expert at queen-rearing, using my own system, the cell-starting hive and device. He is thoroughly familiar with the shallow hive, which is used exclusively in our yards, and he and I, without any other help, manipulate 400 colonies. We took off and extracted 17,000 pounds of honey the past season, and all with a 2-frame extractor. We also reared and sold 500 queens, driving 7 miles to the post-office every other day.

The next boy on my right is John, 9 years old, but small for his age, and is rather "contrary" at times, but interested in bees. He helps much around the bee-yards, doing nearly everything that a boy of his age could be expected to do.

Jesse is the least, and is 6 years old. He is a useful and efficient helper, doing the small chores.

None of the boys are afraid of bees, and I confidently expect all three to turn out bee-keepers.

J. E. Chambers.

Bee-Keeping in Georgia

We notice that bee-keeping receives quite prominent notice in an advertising pamphlet recently gotten up by the Georgia Southern and Florida Railway, setting forth the prosperity of South Georgia. J. J. Wilder seems to be the most extensive of Georgia bee-keepers from the following:

Bee-culture is followed with large profit. Mr. J. J. Wilder has near that town several hundred colonies of bees from which he gathers honey to the value of $1500 to $2000 a year. The writer visited these colonies, and was much interested in the healthy, busy little bees that produce so delicious a product. Mr. William Clements has also 30 colonies, producing 2000 pounds a year.

Mr. Wilder is president of the Southern Bee-Keepers' Association of that State, and writes the following regarding their annual meeting, together with other notes on Georgia's bee-keeping industry:

The Southern bee-keepers were to meet in Atlanta, Ga., Oct. 11 and 12, but on account of a race riot there a few days previous to the meeting, it was called off, and I do not know whether we will try to have another meeting this season or not. There was much interest manifested among the bee-keepers concerning this meeting. Many were to be present, and many letters were sent in to be read. So we feel somewhat disappointed, as a profitable meeting was anticipated by all.

We are having a boom in bee-keeping here now. Several large bee-deals have been made. Mr. Alderman, of Florida, has bought Mr. Heard's apiaries, located near Macon, Ga. Messrs. Sullivan & Roach, near Savannah, Ga., have bought a lot and will locate near Daisy, Ga. Others are making arrangements to embark in bee-keeping as a business next season.

This season's honey crop has been an eye-opener, and well published throughout the Southeast. Bee-keeping is considered by all as an industry of great possibilities here. The demand for bees, queens and supplies are the heaviest we have ever known for this season of the year, and the demand for bees can hardly be filled.

J. J. Wilder.

J. J. WILDER.

CONVENTION NOTICES.

Chicago-Northwestern.—The Executive Committee of the Chicago-Northwestern Bee-Keepers' Association take great pleasure in making the following announcement:

Through the kindness of friends it is possible to hold the next convention of our Association in the fine hall known as "Brunt Hall," in the Bush Temple of Music, corner of Chicago Avenue and Clark Street, Chicago. This is the same hall where the National Association met last December. Arrangements have been made with the restaurant in the basement to serve good meals at very reasonable rates. The Revere House will lodge bee-keepers at their usual low rates. This hotel is at the corner of North Clark and Michigan Streets.

Dr. C. C. Miller writes: "I don't know how much I can do toward making or marring the convention, but, Providence permitting, I'll be there."

N. E. France says: "So far as I know now, I can come."

C. P. Dadant writes: "I promise to attend your convention if possible."

Let us have a full attendance of all the bee-people (ladies and gentlemen) within reach of Chicago. Come and see the great International Live Stock Exposition, and spend part of your time at the bee-keepers' convention.

The meetings will be as follows: Wednesday, Dec. 5, 10 a.m. to 12 m; 2 p.m. to 5:30 p.m.; and 7 p.m to 9:30 p.m. Thursday, Dec. 6, 9 a.m. to 12 m.; and 2 p.m. to 4 p.m.

Question-Box All the Time.

Everybody come and make this the biggest and best bee-keepers' convention ever held in Chicago. Reduced rates on all the railroads.

George W. York, Pres.
Mrs. N. L. Stow, Vice-Pres.
Herman F. Moore, Sec.
Executive Committee.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

Moving to Buckwheat

Mr. J. L. Byer, in the Canadian Bee Journal, has the same experience as myself in the matter of moving weak colonies to buckwheat. This year I moved only the strongest, and considered that by leaving weaker colonies at home I was just saving moving expenses. He says:

> Although I have had but little experience in moving bees to buckwheat, one thing I have learned to my own satisfaction, that it doesn't pay to move any but very strong colonies. For some reason or other the difference in results between strong and weak colonies is much more apparent than during the clover flow. A year ago I moved a load 10 miles away. Half of the number were very strong colonies, the other half fair nuclei. I moved in the hope that they might fill up for winter. While the strong colonies stored considerable surplus (the flow was very light), the nuclei were little better when brought home than when they were moved away.

Don't Let the Bees "Slide"

Don't forget that there is a winter coming.

Don't forget that it will soon be here.

Don't forget that bees can not live through the winter on beeswax and air.

Don't forget to see that they have something more substantial.

Don't forget to do it until December.

Don't forget that the sooner you do it the better it can be done.

Don't think that because you have only a few colonies of bees they do not need attention.

Don't think that, if they do need it, any old time before Christmas will do to fix them up.

Don't think that you haven't time just now.

Don't think that you can't leave the plowing or the roots for a few hours.

Don't think that the bees have plenty of honey for winter unless you know they have—unless you have seen it, or given it to them, or felt the weight of it.

Don't guess at it. Don't take chances.

Live bees are worth money; dead bees are not. Remember that bees are living animals, and if they haven't enough of the proper food to keep them alive they will die. The fact that you can give them their winter's supply of food all at once (if they haven't already got it for themselves) is no excuse for not giving it to them at the proper time. Look them up. If they haven't a laying queen and enough honey for winter, see that they are "put right." The sooner the better. Do it now.—E. G. H., in Farmer's Advocate.

Super Foundation

E. E., in the Journal of Horticulture, England, works out the time to use, and not to use, foundation for comb-building, very nicely. Incidentally he introduces something with reference to judging, not much practised in this country; that is, cutting the section of honey to find the nature of the midrib. It is also a strange idea to desire fragile comb for extracting purposes. In this country we even brace the foundation with wires to make it strong for the extractor. The bulk of his article follows:

> Prior to the main flow, when there is only a small income, full sheets of foundation will be worked out as thin as natural comb; in fact, the difference is so slight that it can hardly be detected.
>
> When, however, there is a glut of honey, and also late in the season when the temperature is falling, the combs will show an objectionable herring bone in the center. In the former case, it would appear that the bees being gorged with honey, and secreting wax abundantly, neither have the time nor the desire to utilize the wax given to them, their greatest endeavor being to draw out the comb and gather and store all the honey possible. In the latter case, the reduction in temperature hardens the wax, and it is consequently less plastic and more difficult to work.
>
> Combs worked out by bees prior to the main flow will be found nearest to natural comb, because with a small income they produce little wax, and have to make the best of the foundation which is given them, the thickened cell walls being drawn out thoroughly, and no thickenings.
>
> In judging comb honey in either sections or frames, the judges, as a rule, make a point of finding whether this herring bone is present or not. By holding the combs to a strong light it will show whether it is wrong, and when this is found to be the case, a skewer or knife will confirm the suspicion, and its merits are discounted accordingly. In addition to avoiding the objectionable midrib when for exhibition, there is an economy in using only strips of 1 inch to 1½ inches of foundation in shallow frames for extracting purposes, and these may be obtained early in the season by inducing the bees to build out the foundation and removing the frames as completed. This is best done when few bees are at home in the middle of the day, and freshly fitted strips in more bars given to them in readiness for another day's work.
>
> Sections should be filled with nothing less than full sheets of foundation of the thinnest, as unless this is done the bees will build irregular cells, or what are called transition cells, passing from these to all drone-based cells for the remainder of the section, and the different sizes of cells and irregularities do not enhance their appearance.

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Wire Nail Frame-Spacers—Plain or Slat Separators—T-Tins

The metal spacers that you use in the brood-frames you say are nothing more nor less than a common wire nail. That seems to be just the thing when working for section honey.

1. Don't the nails that are near the bottom end of the frame ever come out of place when the frame is taken out and replaced again.

2. In speaking about these frames on pages 847 and 848, you say that after using thousands of these spacers for a number of years you are more pleased with them than ever, but that if you had it to do over again you would try very hard to get the automatic nails. Can you tell me where I can get them?

3. What kind of separators do you like best, plain or slat?

4. How long are the T-tins used in an 8-frame super? Would it be wise to order them ⅛ of an inch shorter than the width of the super? Wisconsin.

Answers.—1. There isn't much chance for such interference. When you put in a frame there is always more than half an inch play, or extra room, and then when all the frames are in, the dummy is put in to fill up that vacant space. Without the dummy there would be trouble enough.

2. I don't know of any place where you can get them. They are on price-lists in Germany, and I suppose if there were call enough they might be had in this country. Nail-makers will not make a special nail unless 100 pounds or so are wanted at a time, and no one but a supply dealer would want so many. You can do fairly well with a heavy galvanized shingle-nail.

3. I prefer the plain wood separator.

4. Yes, to work well the T-tin must be ⅛

inch shorter than width of the super. The inside of an 8-frame T-super is 12⅛ inches wide, and the T-tin just 12 inches long.

Transferring and Italianizing

I want to transfer my bees from their box-hives to hives with movable frames and give them Italian queens. Can this be done at the same time or will I have to wait a while?

INDIAN TERRITORY.

ANSWER.—Probably queens are not very often introduced at the same time a colony is transferred; yet it will be all right for you to perform the two operations at the same time if you so choose. On one account you will find it more convenient to do the introducing after the colony has had time to fix things up in its new home; it is that you must find and remove the old queen either before or at the time of introduction, or a day or two later. It will not be an easy thing to find the queen during the turmoil of transferring, and it is not best to handle the frames to look for her until the bees have had abundant time to fasten the combs thoroughly in the frames.

Late Stores for Winter—Mismated Queen—Perhaps Common Bees

1. I am having a peculiar experience with 2 colonies which gathered considerable late honey, and each had a full-sized second story in which there was considerable honey. About a month ago, fearing they had not enough winter stores in the brood-chamber, and wishing to give them a chance to seal up for winter, I put super covers with a hole of a size to receive a Porter escape under the top stories. They failed to do it, and a few days ago I bruised up all the cappings, and started the honey to running at a great rate. They have taken down part, but one colony now is repairing the combs and recapping part of it. I do not wish to break the seals, and shall leave them, taking it for granted they have sufficient stores below. I intend to winter them on the summer stands with Danzenbaker super-covers, packed with carpet and paper.

2. Possibly you remember the question you answered for me some weeks ago, in regard to a mismated yellow queen producing bees of all shades or markings. I thank you for the answer, which I accept as correct—that this is the usual thing, with bees—but when you apply it to other things I am not convinced, for I never yet saw a child that looked exactly like either parent; or, which I think the better illustration, the product of a first cross of the white and black races that was not easily distinguished from either pure white or pure black.

3. All the latter part of the summer and fall, and even yesterday, some strange bees were hanging around my hives attempting to rob. I have seen my bees carry out and away several, and I am sure they have met with poor success, yet they persist with a constancy worthy a better cause. They are medium sized, glossy—almost pure black—rather pointed abdomens. Could you give me any idea what race they are? I have not been able to find where they belong. I am sure it was by one of these drones that my crossed queen was fertilized, about which I inquired.

I have recently finished my first reading of your "Forty Years Among the Bees," and I feel that I want to hand you a unanimous personal vote of thanks for giving us so interesting and helpful a book. Back in the days when I was a boy, and A. I. Root was writing the first edition of "A B C of Bee Culture," I tried bee-keeping, but was not very successful, and circumstances compelled me to give it up. Now I am practically a beginner with 3 colonies, in the suburbs of a city. What I will have in the spring remains to be seen, but I shall put some of your ideas to the test.

KENTUCKY.

ANSWERS.—1. It will not do to take it for granted too confidently that bees have enough in the lower story when there is a lot of honey in the upper story. I got fooled that way myself this very fall. The bees filled several frames in the upper story, and some frames below were empty. But your bees, as far south as Kentucky, ought to have chances enough in the way of warm days to carry down the honey as fast as needed.

2. I own up—you've got me on the mulatto question. But I'm orthodox as to colors of bees. Guess I better stick to bees, and not talk about other things.

3. Very likely those robbers are common stock with the plumage worn off, making them look smaller, shiny, and pointed.

Thanks for kind words about "Forty Years."

Reports and Experiences

Results of the Past Season

I had 6 colonies of bees last spring. One was broken down last summer, but I didn't notice it until about April 6, when all combs were lying down on the bottom-bars, and only a handful of bees left. But they had a good queen, so I got new frames and fixed up the combs in them. It is as good a colony now as I have, but it stored no surplus. I had 10 swarms from 2 colonies, and 6 from 2 others, one colony swarming only once. I doubled up 3 and 4 swarms. I got 4 stray first swarms in the timber. I have now 23 colonies in all in good condition, and with plenty of stores for winter. I sold $37 worth of comb honey. We had a good honey-flow from the beginning of June until after basswood; then a dry spell which dried out white clover. There was nothing to yield honey after that until September. There are many bees here that are starved already, and more of them will die before spring.

La Motte, Iowa, Oct. 17. NICK JENTGEN.

Bees Carrying Water at Night

"Ohio" wants to know what Dr. Miller thinks about that night-shift of bees carrying water (see page 846). The past 2 years, in April or May, during a hot spell, I moved my bed outside the house, and there I slept every night (weather permitting, of course,) till it got too cool (October or November). I didn't use even a tent or mosquito-bar. The first night when I moved my outfit outside I could not sleep, as fleas and long-tongued mosquitoes bothered me no little. I did not sleep that night until 3 a.m. by the watch. I went to the bee-hives and stood there, got a torch-light, and watched the bees in front of their hives; not one minute, not 5 minutes, but fully 15 minutes, going to the next hive and watching again. Soon after 3 a.m. I went to sleep and the bees were still going at this time, just as described.

As reported before, *never more than one bee* goes out of one hive at once after water, and the next one takes wing the very second one carrier sets her foot on the alighting-board, no matter if a quart of bees is hanging over each entrance, and 2 or 3 empty supers on top. My hives stay in the shade from about 9 a.m. till 3 p.m., during summer, and are raised about 18 inches from the ground. The orchard, and in front of the house, is cultivated with horse as close as can be done. Like Mr. Doolittle, I plow either at the first sign of daylight, sometimes during or right after a shower, or during a honey-flow—at any time while bees are flying thickest. The horse so far has escaped with 4 or 5 stings during the last 3 years, when the bees were shifted from another place into the orchard.

By the way, I have seen or heard of these water-carrying bees many times. As I sleep outside, I know that every hot night, water-carrying is going right on exactly as reported, except on cloudy nights. If I had bees a good distance from the house—water far for the bees to get—and were it not that I, like a good many others, prefer to sleep outdoors, I would not know of this night-working shift of bees. The well is 70 feet deep, is 210 yards away to the east of the house. No bees go there at night but plenty of them at day time.

The scattered condition of my apiary also might have some influence, where bees under certain conditions go after water at night. Another thing, bees must be carried early in spring to go to a nearby watering-place, so as to know exactly the water-spot. Or, to be exact, don't put a vessel filled with water one day and expect bees to go after water the following night. It may take 2 or 3 generations before results like mine could be attained. Force of habit, you see.

Last spring was favorable for bees here. During June, July, and the first half of August, nearly every day we had hard rains, mostly about 12 M. Drones, although plentiful in hives, flew very little on account of cold waves following rains. An unusually large percent of virgin queens was lost.

Fort White, Fla., Oct. 9. J. PAWLETTA.

Wintering Bees, Etc.

I have just taken off the top stories of my 10-frame dovetailed hives from 25 colonies. It will not be a big crop this year—about 1800 pounds in all. There were 3 stories with 2 10-frame supers on each, and the second supers will be taken off in a couple of weeks. This is the way I do when I take the last super off: I examine the brood-nest and take out 2 or 3 frames that have the least honey, but full of pollen, and put in frames full of honey sealed over, so that all colonies have at least 30 pounds of honey. The frames taken out are stored for feeding in the spring, if needed. If not, they are used for starting new colonies or hiving an accidental swarm; but my 25 to 30 colonies have given me only 9 natural swarms in 3 years, or just 3 swarms a year. Then after the frames are fixed, I put the winter-cases on, and they are wintered right on the summer stands. I intend to increase to 50 colonies next year.

Well, I think Dr. Miller was right in his answer that some swarms had entered the hive. The Alley queen is all right. The hybrids or blacks are all gone. This is the first time that I have seen queens fill the frames with brood clear to the top-bar as those Adel bees did this spring. The spring was fine to May 14 or 15, then it rained to the first of July—full 6 weeks and in the best bloom. Too bad! Well, we shall have to stand it.

I see the Baron M. is Lieawful yet. Hope he will bring Yon Yonson along. It is so long since we heard from him, and it would be fine to hear if the catnip and raspberry have increased. And I think Miss Emma Wilson will have to take this Mr. D. in hand for his slur on the ladies' vanity. Just think, even a queen-bee has to have a looking-glass! I can hardly believe it; and, besides, would not all the rest of the bees, before they go out, have to see if their "hat" was set right? This would take up too much time, and I don't see how they can roll in the honey that way. Better have the sides of the hives all mirrors, for accommodation. O. K. RICE.

Wahkiakum Co., Wash., Oct. 10.

"Where Ignorance is Bliss," Etc

After making a thorough canvass of this section and looking over about 30 apiaries, I find that most of the bee-keeping is done on the most antiquated plan. There is not much management put into the business by the old-timer of the back-number type. If you ask them if they ever read a bee-book, they say "No," and will tell you that "there is nothing in it, so what is the use to read a book on bees, or a paper, either!" Besides, bees have stings, and if they were to try to handle them they might do them irreparable injury, so they go on with their box-hives and log gums as of old, never reading a bee-paper or book. Is there any wonder that they do not make anything out of their bees? What other business could anybody make anything out of if he paid no more attention to it, than do most farmer bee-keepers? Could our merchants succeed in a wholesale or retail business, if it were allowed to run itself; or will corn come up, grow, and make a great crop without attention of any kind? Not much; but the bees in their box-hives do better besides swarming or increasing themselves; sometimes give a nice surplus, and that with practically no attention at all by these back-number bee-keepers. Here is a little experience that came under my observation:

The last week in June and the first week in July, I moved 30 colonies about 5 miles from home. Some were weak nuclei and some were fair colonies. There were two bee-keepers that were close neighbors to my bees. One had 16 colonies, the other had 67 colonies, in pretty fair condition. Then came, as most bee-keepers know, a great dearth of honey. I fed my bees every night after dark to prevent robbing, up to Aug. 7, as fast as needed. I supplied them with full sheets of foundation to give them plenty of room for brood-rearing. The result was that when the honey-flow opened, I had these colonies all in fine shape, and the nuclei were also mostly colonies of fair size by this time. I put on extracting-frames as soon as the flow opened. I have taken off 1431 pounds of honey up to the present, and there are still 250 to 300 pounds to take off; besides, almost all have enough in the brood-chamber to winter on and for brood-rearing in the spring. Of course, it took 300 pounds of sugar to do it.

Now, about my neighbor bee-keepers: The one with 16 colonies got 93 pounds. One day when I was going down to my bees, he met me and asked if I got much honey this season from my bees. I told him they did only fairly well. He replied that his bees had done about as well as they usually do, and that he got 93 pounds of honey from the 16 colonies, and thought that was doing fine! As I had put the escape under one of my best colonies the night before—that is, a 10-frame Hoffman super—I asked him to go along and see what one of my colonies had done. I lifted up the super, took it a little way from the hive and asked him to lift it. He did so, and you should have seen him. He was the most astonished man I ever saw. Well, this super contained almost as much honey as he got from 16 colonies. He began to get inquisitive, and soon wanted to know how it was that I got so much honey from one colony. I told him that I read all the bee-books that I could find, and besides I take 2 good bee-papers. I also handed him a sample copy of the American Bee Journal, with which I am always armed, and told him to read it, and that I would be around in a few days. Well, when I came around and asked him about the paper and how he liked it, he said that it was all right, but that a dollar a year was too much for a paper that came once a week, and as there was nothing in bees any way, he thought he could not afford to spare a dollar for a year's subscription; but if I had any more sample copies to give away, he would read them. Well, I thought I would let him subscribe first.

The other one with his 67 colonies got 437 pounds of honey and thought he had done fine, but when he saw what my bees had done, he was astonished. I handed him a sample copy of the "Old Reliable" and asked him to read it, and said that I would be around in a day or two to get his subscription. This copy contained a report of the 36th annual convention of the National, at Chicago. The paper that Dr. E. F. Phillips read there on "Experimental Apiculture" is alone worth the price of 10 years' subscription to the American Bee Journal, and besides benefiting the bee-industry, it also is beneficial to the farmer and stock-raiser alike, whether he is breeding for the betterment of cattle, hogs or chickens; whether he is trying to improve his corn, potatoes, or orchard output; or whether he is trying to improve on all of them, it is valuable. When I went back to see bee-keeper No. 2, I asked him how he liked the "Old Reliable." His answer was that he had forgotten years ago what the paper contained! Just think of it, dear reader, here is a man that never saw a bee book or journal, and he says that he has forgotten more than their able writers ever learned! Just think of it, he knows more than Dadant, Dr. Miller, Dr. Phillips, A. I. Root, Mr. Holtermann, Mr. Scholl, or Mr. Pettit! He certainly is a wise one. Say, let's make him president of the bee-keepers' association. He certainly is too wise to be doing almost nothing.

As for me, I find it impossible to do without the "Old Reliable," and the advice of able bee-keepers that it contains.

JULIUS HAPPEL.

Evansville, Ind., Nov. 9.

Bee-Keepers' Souvenir Postal-Card.—We have secured a somewhat comic Souvenir Postal Card for bee-keepers, printed in 4 colors—red, yellow, blue and black. At the left end the following are pictured: An old-fashioned straw bee-hive with bees circling around and above it; a sad-eyed bear with his "hands" over his sweet-loving heart; a jar and a section of honey; also a spoon with a card attached, reading, "Come let us spoon awhile." At the bottom of the card, and to the right, are these words: "Eat thou honey because it is good."—Prov. 24:13. At the left of the bear's head, and encircled with bees, is this sentence: "I can not BEAR to lose you;" and at the top, and to the right of the bear's head and bees, is this stanza:

O won't you BEE my HONEY,
And cheer this lonely heart?
For I would hug you all the time,
And we would never part.

PRICES, postpaid: 3 cards for 10 cents (stamps or silver), or FREE with the American Bee Journal one year at $1.00; 10 for 25 cents; or 25 for 50 cents. There is a blank space on the card about 2 by 2½ inches in size for writing. Send all orders to the office of the American Bee Journal.

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GEORGE W. YORK & CO.,
334 Dearborn Street, CHICAGO, ILL.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

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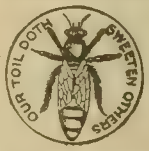
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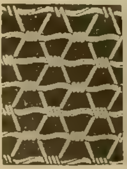

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Honey and Beeswax

CHICAGO, Nov. 7.—The market is taking honey, both comb and extracted, in a very satisfactory way. The price of No. 1 to fancy comb is 15@16c; off grades, 1@2c per pound less. White extracted, 7½@8c; amber, 7c; dark, 6@6½c. All of this is governed by quality, condition, and package. Beeswax, 30c per pound.
R. A. BURNETT & Co.

KANSAS CITY, Nov. 8.—The demand for both comb and extracted honey is good, receipts light. We quote fancy white comb, 24 sections, at $3 25; No. 1, $3; No. 1 white and amber, $2.75. Extracted, white, per pound, 7c; amber, 6@6½c. Beeswax, per pound, 25c.
C. C. CLEMONS & Co.

CINCINNATI, Oct. 20.—The demand for comb honey is good. No. 1, white, brings 14½c wholesale, and 16c retail, by the case. Off grades less from 2@3c per pound. White clover extracted brings in barrels, 8c per pound; in cans, 8½c; amber grades, light, 6c in barrels; dark, 5½c in barrels; in cans, ½c per pound more. Beeswax, 30c.
C. H. W. WEBER.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, Nov. 9.—There is a good demand for comb honey, principally for fancy stock of both white and buckwheat honey. Mixed and off grades are more or less neglected. Receipts have been quite heavy of late, but there is no overstock whatsoever, as the demand has been good right along. We quote fancy white at 15c; No 1 at 13@14c; No. 2 at 12c; buckwheat and mixed at 10@11c. Extracted honey, demand is good, especially for fancy grades. Prices are ruling higher. We quote California white sage at 7½@8c; light amber, 7@7½c; amber, 6½@7c; Southern, in barrels, at 55@65c per gallon, according to quality. Not much demand for extracted buckwheat, and we do not expect any for some time to come. There seems to be a large crop of this grade, judging from the offerings made. The nominal price at present is from 6@6½c per pound. Beeswax, 29@30c.
HILDRETH & SEGELKEN

DENVER, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Nov. 3.—The honey market is rather quiet at this date, owing to the market being flooded with comb honey; selling slowly at from 14@16c. Extracted amber honey sells at 5½@6½c. White and fancy grades find sale at from 7½@8½c. There is not so much moving as one might be led to believe. Beeswax is dragging at 29@30c for choice yellow.
THE FRED W. MUTH CO.

INDIANAPOLIS, Nov. 15.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Oct. 8.—The market on comb honey remains firm. The demand is fair, and the receipts equal to the demand. Fancy white comb honey in a retail way brings 15@16c, with very little demand for low grades. Extracted white clover in barrels brings 7½@8½c; cans the same. Beeswax, 26@28c.
GRIGGS BROS.

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to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

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Chicago-Northwestern Convention Dec. 5, 6--Next Week

AMERICAN
BEE JOURNAL

46th Year CHICAGO, ILL., NOV. 29, 1906 No. 48.

MASSACHUSETTS AGRICULTURAL

Apiary and Little Son of Jay Smith, of Vincennes, Ind.

Mr. Whitney's Black-Stockinged Little Girl Holding a Frame of Bees.

(See page 978)

A Bee-Ranch Located in the Salt River Valley, near Phœnix, Arizona.

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

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1st.—To promote the interests of its members.

2d.—To protect and defend its members in their lawful rights.

3d.—To enforce laws against the adulteration of honey.

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N. E. FRANCE, Platteville, Wis.

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31—45A4t

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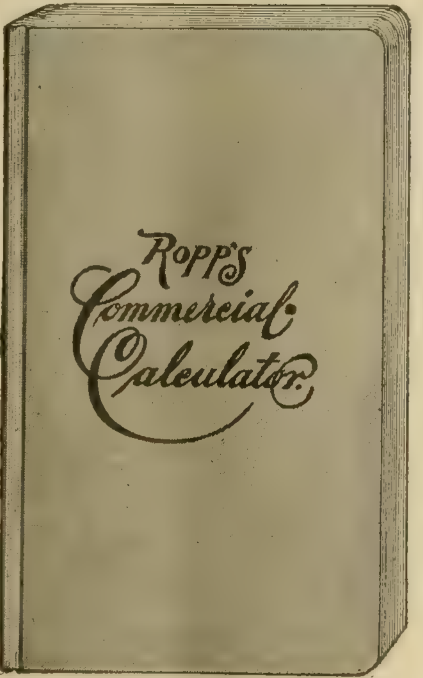

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American Bee Journal

Some Styles of Honey-Jars

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Tip-Top Jars.

TIP-TOP HONEY-JARS

This is a new-style jar sealed with rubber ring under rim of a glass top held securely with spring-top fastener. This fastener is applied to a great variety of bottles and jars used for different purposes. We have selected two styles among them all as being the most suitable for honey. The one and two pound square jars may be had with spring top fastening instead of cork at 75c per gross extra. We can furnish in two sizes.

½-pound, 45c per doz.; gross, $4.50.
1-pound, 50c per doz.; gross, $5.

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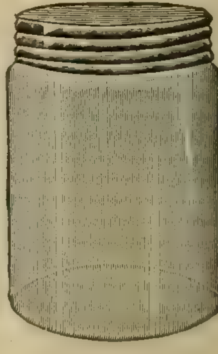
These jars were designed for use in the honey exhibit at the Pan-American Exposition in Buffalo, and are very neat and attractive. They have cork-lined aluminum caps which seal them tight. They are made in 4 sizes square and 3 sizes round. Write us for complete prices on this style of jars.



Hershiser Jar.

NO. 25 JARS

The illustration to the side does not do justice to this jar. It must be seen to be fully appreciated. We have sold this jar for years and in larger quantities than any other. It is really our standard, and the demand for it is unfailing. Packed in re-shipping cases of 2 dozen each. We are now prepared to offer No. 25 jars in partitioned cases of 2 dozen each, ready to re-ship, when filled, at $1 per case; 10-case lots or over, 95c; 50-case lots at 90c.

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Size.	*Doz.*	*6 doz.*	*12 doz.*
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Quart	0.55	3.10	6.00
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No. 25 Jar.

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Toronto........E. Grainger & Co.
California
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*Los Angeles........California National Honey-Producers' Association
Colorado
Denver........The L. A. Watkins Mdse. Co.
Fruita......Fruita Fruit and Produce Ass'n
District of Columbia
Washington........The A. I. Root Co.
Georgia
Savannah........Howkins & Rush
124 Liberty St.
Illinois
Chicago........The A. I. Root Co.
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Indianapolis........Walter S. Pouder
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Iowa
Des Moines........Joseph Nysewander
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Augusta........Carl F. Buck

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Brazelia........George A. Hummer
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Mechanic Falls........The A. I. Root Co.
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Zanesville........E. W. Pierce
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2146 Central Avenue
Oregon
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Du Bois........Prothero & Arnold
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Dallas........Texas Seed and Floral Co.
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AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
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GEORGE W. YORK, Editor — CHICAGO, ILL., NOVEMBER 29, 1906 — Vol. XLVI—No. 48

Editorial Notes and Comments

The Two Kinds of Foul Brood

Referring to the article on page 895, is the following note:

> "In the exceedingly interesting article of Mr. J. A. Green upon foul brood, he says bee-keepers 'have assumed that there was only one form of foul brood, alike in all countries where bees were kept.' Again, at the close of his article, speaking of Europe, he says: 'It is quite probable that there are two brood diseases there the same as here.' Apparently Mr. Green thinks that only one form of foul brood is recognized in Europe. In this he is in error; for at least in Germany, for many years, a distinction has been made between the 'mild' and the 'severe' form of the disease."

While this is true, it may be a little hard to determine whether by the terms "mild" and "severe" two separate diseases are meant, or varying degrees of virulence of the same disease. It is well known that in the category of diseases to which the human race is subject, a given epidemic breaks forth at one time in a mild, and at others in a severe form, yet always the same disease.

The important point brought out by Mr. Green, that *Bacillus alvei* is not the culprit it has for so long been supposed to be, is at any rate not affected by the point in question. Just now the question of special interest is, "What is the culprit?" Some of the German scientists say it is a bacillus, to which they have given the name *Sphirocæte apis Maasen.* We wait patiently to hear what investigators on this side will say in contradiction or corroboration.

◆

What Is Done With Nectar Brought In?

Referring to the editorial on page 861, the following letter was received:

> In the editorial on dark honey or sugar syrup of the brood-chamber going into the sections, I think you will find that you misquote Mr. Doolittle. His theory, frequently printed, is that no such danger exists, that the field-bee delivers her load to the young house-bee, which takes it directly to the super. ARTHUR C. MILLER.

No one is so competent to interpret the views of Mr. Doolittle as Mr. Doolittle himself, so in the interest of exactness a note was sent him, to which he made the following reply:

> DEAR BRO. YORK:—Your letter of recent date relative to page 861, duly to hand. In reply I would say that I have watched hours, if not days, by the side of an observation hive to see what the field-bee did with its load of honey, and I never saw her do aught else than give it to one of the young or nurse bees. These bees hold and evaporate this nectar if no more comes in during the day than they can thus hold; but with a heavy flow they deposit it in the cells, generally in the brood-chamber, when at night all hands take a hand at the evaporation part, when it is stored in the surplus apartment, mostly by the young bees, unless there is plenty of room in the brood-chamber, in which case it is stored there. I noticed that you had misquoted me a little, but as this had no special bearing on the subject on which you were writing, I did not think best to notice it.
>
> You are perfectly sound in what you say about all, or nearly all, of the old honey carried over winter in the brood-chamber being converted into young bees before the season's honey-flow is on, as the hive is nearly always filled with brood before the supers are put on. But if bees are fed sugar syrup or inferior honey so as to fill the combs in the brood-chamber just before the harvest, as some recommend, then if the queen is good, and swarming does not result, much of that fed will go into the supers, mixed with that which is coming in from the fields; so that the sections will not contain only clover honey, but a "hybrid" affair of no certain standing.
>
> G. M. DOOLITTLE.

So it appears that Mr. Doolittle was exactly quoted by neither party. The error on page 861 was in saying that the fielder deposits its load in some cell of the brood-chamber, whereas it should have been as Mr. Miller says, "that the field-bee delivers her load to the young house-bee."

If Mr. Miller had stopped when he said that, he would have been on safe ground; but, instead of that, he calls down upon himself the charge of misquoting by saying that the young bee, on receiving the nectar, "takes it directly to the super." The correct statement is that it first evaporates it.

On the whole, it must be confessed that Mr. Miller has the best of it, and at all events we are obliged to him for the opportunity of getting so full a statement of particulars from Mr. Doolittle.

◆

The Honey Season in Ireland

The Irish Bee Journal reports a comparative failure of the clover harvest generally throughout Ireland, and 144 reports show an average of 49¾ pounds surplus per colony against 67¾ last year. A good many in this country would have been delighted with 49 pounds per colony.

◆

The Brood-Diseases of Bees

This is the title given to Circular No. 79, written by E. F. Phillips, Ph. D., Apicultural Expert, and sent out by the United States Department of Agriculture, as mentioned before in these columns. As it is of such very great importance to diagnose these brood-diseases, extracts are here given from the circular, not so much for anything new in them, but because given in excellent form, and in the hope that they may be carefully studied by some who are yet ignorant in such matters, whose ignorance may have a rude awakening should they be threatened with the diseases described:

> There are two recognized forms of disease of the brood, designated as European and American foul brood, which are particularly virulent. In some ways these resemble each other, but there are certain distinguishing characters which make it possible to differentiate the two. While it may be possible for a colony to have the infection of both diseases at the same time, it is not by any means the

rule, and such cases are probably not authentically reported.

AMERICAN FOUL BROOD.

American foul brood (often called simply "foul brood") is distributed thru all parts of the United States, and from the symptoms published in European journals and texts, one is led to believe that it is also the prevalent brood-disease in Europe. Altho it is found in almost all sections of the United States, there are many localities entirely free from disease of any kind.

The adult bees of an infected colony are usually rather inactive, and do little toward cleaning out infected material. When the larvæ are first affected they turn to a light chocolate color, and in the advanced stages of decay they become darker, resembling roasted coffee in color. Usually the larvæ are attacked at about the time of capping. As decay proceeds these cappings become sunken and perforated, and as the healthy brood emerges, the comb shows the scattered cells containing larvæ which have died of disease, still capped. The most noticeable characteristic of this infection is the fact that when a small stick is inserted in a larva which has died of the disease, and slowly removed, the broken-down tissues adhere to it and will often stretch out for several inches before breaking. When the larva dries it forms a tightly adhering scale of very dark brown color, which can best be observed when the comb is held so that a bright light strikes the lower side-wall. Decaying larvæ which have died of this disease have a very characteristic odor which resembles a poor quality of glue. This disease seldom attacks drone or queen larvæ. It appears to be much more virulent in the western part of the United States than in the East.

EUROPEAN FOUL BROOD.

European foul brood (often called "black brood") is not nearly as widespread in the United States as is American foul brood, but in certain parts of the country it has caused enormous losses. It is steadily on the increase, and is constantly being reported from new localities. It is therefore desirable that bee-keepers be on the watch for it.

Adult bees in infected colonies are not very active, but do succeed in cleaning out some of the dried scales. This disease attacks larvæ earlier than does American foul brood, and a comparatively small percentage of the diseased brood is ever capped. The diseased larvæ which are capped over have sunken and perforated cappings. The larvæ, when first attacked, show a small yellow spot on the body near the head, and move uneasily in the cell. When death occurs they turn yellow, then brown, and finally almost black. Decaying larvæ which have died of this disease do not usually stretch out in a long thread when a small stick is inserted and slowly removed. Occasionally there is a very slight "ropiness," but this is never very marked. The thoroly dried larvæ form irregular scales which are not strongly adherent to the lower side-wall of the cell. There is very little odor from decaying larvæ which have died from this disease, and when an odor is noticeable it is not the "glue-pot" odor of the American foul brood, but more nearly resembles that of soured dead brood. This disease attacks drone and queen larvæ very soon after the colony is infected. It is as a rule much more infectious than American foul brood, and spreads more rapidly. On the other hand, it sometimes happens that the disease will disappear of its own accord, a thing which the author never knew to occur in a genuine case of American foul brood. European foul brood is most destructive during the spring and early summer, often almost disappearing in late summer and autumn.

"PICKLE BROOD."

There is a diseased condition of the brood called by bee-keepers "pickle brood," but practically nothing is known of its cause. It is characterized by a swollen watery appearance of the larva, usually accompanied by black color of the head. The larvæ usually lie on their backs in the cell, and the head points upward. The color gradually changes from light yellow to brown after the larva dies. There is no ropiness, and the only odor is that of sour decaying matter, not at all like that of American foul brood. In case the larvæ are capped over, the cappings do not become dark, as in the case of the contagious diseases, but they may be punctured. So far no cause can be given for this disease, and whether or not it is contagious is a disputed point. Usually no treatment is necessary beyond feeding during a dearth of honey, but in very rare cases when the majority of larvæ in a comb are dead from this cause, the frame should be removed and a clean comb put in its place to make it unnecessary for the bees to clean out so much dead brood.

The treatment recommended is the well-known McEvoy treatment, which is called "Shaking Treatment," and also the Baldridge treatment, which is called "Treatment with Bee-Escape." Besides these there is also given

FALL TREATMENT.

If it is desirable to treat a colony so late in the fall that it would be impossible for the bees to prepare for winter, the treatment may be modified by shaking the bees on to combs with plenty of honey for winter. This will be satisfactory only after brood-rearing has entirely ceased. In such cases disease rarely reappears.

In the Western States, where American foul brood is particularly virulent, it is desirable thoroly to disinfect the hive by burning the inside, or by chemical means before using it again. This is not always practised in the Eastern States, where the disease is much milder.

Miscellaneous News-Items

The Chicago-Northwestern Convention meets next Wednesday and Thursday, Dec. 5 and 6, in Brunt Hall, Bush Temple of Music, corner of North Clark Street and Chicago Avenue. Reduced rates will be effective on all railroads leading to Chicago, on account of the Live Stock Exposition to be held here next week. Dr. C. C. Miller, C. P. Dadant, N. E. France, and many other apiarian notables are expected to be present. Come, if you can. The Chicago-Northwestern has had for years some of the very best bee-keepers' conventions held in this or any other country.

Mr. D. H. Coggshall, of West Groton, N. Y., called at this office when on his way home from attending the San Antonio convention. He reported a very enjoyable trip to various parts of Texas. Mr. Coggshall is one of the oldest readers of the American Bee Journal.

A Black-Stockinged Little Girl.—Mr. Wm. M. Whitney, of Lake Geneva, Wis., wrote us as follows, Oct. 5:

FRIEND YORK:—Herewith I enclose a snap-shot taken a few days ago in my bee-yard. While working among the bees I noticed a little girl watching me at a distance, and asked her if she would like to see the bees, which she assented to do. When she came into the yard I noticed her black stockings, and thought of what so many have said about bees stinging anything black; but noticing that they were not of the fuzzy kind, I felt sure that there would be no more danger than if they were white. I gave her a veil for her face, and commenced opening a hive. I took out several frames without using smoke, found the queen, and asked her if she would like to hold the frame of bees. "Why, yes," she said, "if I may."

I said to her, "Do not be afraid if the bees crawl over your hands; they'll not sting."

Then I removed her hat and took the enclosed picture. Being the first time she ever visited a bee-yard to examine bees, impressed me with the thought that if she knew anything about the nature of bees in general she was very courageous, or had the utmost confidence in what I said to her.

WM. M. WHITNEY.

Apiary of Jay Smith.—When sending the photograph, Mr. Smith wrote us as follows, July 23:

I enclose a picture of my bees and "honey." The little fellow on the hive is all the family I have; his sister and most-beloved mother are in the Better World.

My 60 colonies have yielded large returns, but, like Prof. Bigelow's bees, mine have paid me mostly in enjoyment, and very little in cash. But money is simply a commodity with which to purchase pleasure, but my bees yield the enjoyment direct, thereby avoiding the middleman's profits!

I never work among the bees without feeling grateful to God for giving us this the most fascinating of all pursuits. It helps me to pass the otherwise gloomy hours with pleasure.

One day I found an extra-fine queen-cell from which a virgin had just emerged. I laid it aside to show visitors, who come in numbers, and are always welcome. When I again looked for it, it was gone. Then my little boy "Manly" sang out: "Oh, Daddy, I eat up the queen-*shell*." JAY SMITH.

The Trip to San Antonio.—We doubt if there ever was a more congenial and good-natured company than was that which left the La Salle Street Station, Chicago, at 10:37 a.m., Nov. 6, in a special car for the 37th annual convention of the National Bee-Keepers' Association, to be held in far-away San Antonio, beginning Nov. 8. It was, rather, a happy *family*, including grandparents and grandchildren—from 78 years down to 8 years—with nearly all sizes and ages between.

It was a very representative company, both as to the bee-keeping industry and the various sections of our country—from New York to Nebraska, and from Wisconsin to Missouri—9 States in all being represented.

Then there was President Dadant, Vice-

President Hilton, General-Manager France, Directors Hatch, Holekamp, and Stone; ex-Editor Putnam, Associate Editor H. H. Root, and many other prominent bee-keepers.

With us, also, were Dr. Bohrer, of Kansas, and P. D. Jones, of New York—two of the those who attended the very first national gatherings of bee-keepers in the United States—one meeting being held in Indianapolis, in 1870, and the other in Cleveland, in 1871. And these two "old stagers" were as lively as any boys in the whole "bunch" of 36 that made up the car load. The complete list is as follows:

G. A. Bleech
Mathilde Candler
Olive Bull
Clara Bull
Mary M. Bull
J. C. Bull
P. D. Jones
G. H. Adkins
N. E. France
D. H. Coggshall
F. L. Kimmey
Mrs. Kimmey
Freddie Wilcox
J. C. Frank
H. H. Root
R. W. Boyden
J. C. Thies
M. E. Darby
G. E. Bacon
Geo. E. Hilton
W. H. Putnam
J. P. Doll
A. L. Hatch
C. A. Hatch
Mrs. C. A. Hatch
Mrs. Ferebee
Dorothy Ferebee
Nellie Ferebee
F. W. Muth
R. A. Holekamp
Mrs. Holekamp
C. P. Dadant
W. S. Carrico
Dr. G. Bohrer
J. J. Measer
George W. York

The youngest was Freddie Wilcox (8 years), who was accompanied by his grandparents, Mr. and Mrs. F. L. Kimmey, of Chicago. Mr. K. has about 50 colonies of bees, and is successful with them. He is also a well-known poultryman, being the efficient secretary of the National Fanciers' and Breeders' Association.

The other two children were Dorothy and Nellie Ferebee, who, with their mother, were going from Wisconsin to spend the winter in Texas near the Gulf of Mexico.

Arriving at the Union Station in St. Louis about 7 p.m., there were added to the original company Mr. Dadant, Mr. and Mrs. Holekamp, Mr. Muth (of Cincinnati), and Mr. Carrico. Dr. Bohrer and Mr. Measer, both of Kansas, got on the train at Monett, Mo. At Springfield, Mo., Mr. Darby should have joined us, but through a misunderstanding he boarded the first section of the train (we were in the second section), and so he missed the special car until he reached a station near central Texas, where he waited until the bee-keepers' car arrived. Every berth in the sleeper was then taken, and many of them were occupied by two persons, both lower and upper berths.

After arriving in Indian Territory the cotton-fields began to appear, and from there on to San Antonio it seemed that practically all the crop grown was cotton. There were bales and bales of it at many of the railroad stations along the way, and often the pickers and wagon-loads of cotton were seen in the fields. For many miles where the frost had appeared, or until perhaps south of the middle of Texas, the cotton-fields looked like fields of raspberries, especially if the cotton had been picked recently. Then in southern Texas, where there had been no frost, the cotton plants were quite green. It was a very beautiful sight—the white, fluffy cotton mixed in with the green leaves of the plants.

Some of our company had thoughtfully brought with them large baskets of good things to eat on the way, including honey, of course. This was a very wise precaution, for sometimes it seemed a long while between lunch stations for some of us. But the "inner man" was well supplied from the "stores" laid in by "Gen." Putnam, "Mama" Holekamp, and others. We always came in for more than our share. (If you want to have enough to eat on a long trip, be sure to join a special car-load company of bee-keepers going on a journey of over a thousand miles.)

Next week we will tell of the arrival in San Antonio, how the "band" failed to meet the special car, how "hot" the Mexican banquet aws, etc.

Contributed Articles

Difference in Colony Honey-Yields

BY G. M. DOOLITTLE

"Our colonies were exactly alike last spring, as far as I could see, or as near as I could discover, yet one colony has given an excellent surplus, others from a fair to a good yield, while others gave none, or very little. Why is this? Please tell us through the columns of the American Bee Journal."—A CORRESPONDENT.

Here is a question which used to bother me greatly, for I formerly was troubled in the same way, but of late years I have succeeded in making each colony produce nearly like results; that is, if one colony contains 60,000 bees and produces 100 pounds of honey, I secure about that amount from every colony containing that number of bees, while one having 40,000 bees will give about 60 pounds of honey, and one having but 20,000 bees about 30 pounds. Thus it will be seen that honey is secured about in proportion to the number of bees contained in any colony.

After carefully studying on this matter, I found that colonies which I pronounced "exactly alike" during the middle of May would not be so at the time the honey harvest was at its best. The trouble was that I did not have a thorough knowledge regarding the working force of my bees at all times, nor of the interior of the hives. For instance, the colony which I called my best on May 15 might become one of the poorest by June 18 to July 15, during which time the honey harvest was at its best. This, as a rule, would come about through the prolificness of the queen, as I have often noticed that a colony which winters extremely well and goes to breeding very rapidly in early spring does not equal one during the honey harvest which did not come out so strong in bees, but commences brood-rearing in earnest about the middle of May.

The reason seems to be that by about June 5 to 15 the queen in the colony which was extremely strong when early spring opened ceases to be as prolific as the other, and this allows the bees to put the first honey which comes in, into the brood-combs, rather than force it into the surplus apartment or super, as does the other through her extra-prolificness at this time, when the prolificness of the queen is of the most value to the apiarist.

I have noticed that if the bees are allowed to get the start of the queen so as to store much honey in the brood-chamber, right where the queen should lay and keep occupied with brood during the beginning of the harvest, such a colony will not be a profitable one in yielding section honey. The brood-chamber should be for *brood* previous to and during the first half of the honey harvest, if we are to secure a good yield of section honey from this colony. And where such brood does not fill the brood-chamber at the time of the commencing of the harvest, the remedy is to allow only as many combs in the brood-chamber as the queen has brood in at that time, taking the rest away, and substituting dummies for these combs taken. In this way, the 20,000 bees are set to work in the super on the same principle that the 60,000 are.

To make it a little plainer, when the honey harvest arrives each and every brood-chamber should be occupied with brood, the necessary pollen, and only a very little honey, so that what honey is brought in from the fields must of necessity go into the supers. With the 60,000 bees and 10 Langstroth frames in the hive, we have this state of affairs without our going to any extra shutting off of space. With the 40,000 bees we will usually find that there is brood in only 8 of the frames of comb, with plenty of empty cells in the other 2. These empty cells will furnish room in which to store the first honey coming in if left as they are; and as the bees commence to store in these instead of entering the sections, they take it for granted that here is their "storehouse," and so keep filling this storehouse to crowding out of the queen with little or no honey in the sections. By taking out these 2 empty combs and putting a dummy in place of each, we shut off this storing of honey in these combs and force this first honey into the sections, when all will go as well here as it did with the 60,000 colony, only the yield of section honey will be nearly in proportion to the bees the colony contains.

With the colony containing 20,000 bees at the opening of the harvest, we will find only from 5 to 6 combs of brood, the other 4 or 5 containing mostly empty cells, and if we leave these as they are, we can rest assured that the energy of these 20,000 bees will be expended in filling all this large space with honey, and by the time this is done they will have no desire to expand out into the sections, but will crowd the queen down and down, till when fall comes we shall have no section honey, but a hive full, with very few bees for wintering. Now take out those frames of empty comb and fill their places with dummies, putting on the sections, giving section-room according to the needs of the bees which the colonies contain, and you have placed such a colony in a very similar condition to the one having the 40,000 or 60,000 bees, and will obtain honey from this smaller colony nearly in proportion to the number of bees it contains. Not quite, for a small colony can not do quite as effective work in any event as can one having bees enough to work in a large amount of room advantageously.

Then, it is possible, that our correspondent pays no attention to the amount of drone-comb in his hives. No matter how strong in number a colony may be, if from one-fourth to one-third of those bees are drones, reared in that number of drone-cells, allowed in the comb of the hive, such a colony can never give the best results as long as that drone-comb is allowed to remain in the hive, as the amount of honey taken to feed the useless drone-brood, and the practically useless drones after they have emerged from their cells, will leave only a small amount to go into the sections.

An inch or two of drone-comb is all that is needed to satisfy any colony, and all that should be allowed to any and all colonies but those from which we wish to rear the male bees for breeding purposes; and all colonies having more drone-comb than this should be looked over in the spring, all but the one or two inches cut out, and worker-comb fitted in the place where the drone-comb was cut out.

Borodino, N. Y.

Bees Don't Puncture Grapes

BY JOHN KENNEDY

On page 757, I replied to an editorial in relation to the honey-bees damaging fruits, and especially scupper-nong grapes, and I promised in that letter to deal fairly with the bees, that if I found on careful investigation that they were innocent of damaging my grapes, I would so publish the fact. As I wrote, something literally destroyed my scupper-nong grapes year before this, and I waited for a recurrence before I complained. So this year the trouble began just as last year, but the only difference was that whatever was doing it was much worse on last year's crop. But the grapes were punctured the same way, just as if one had stuck the point of a knife-blade in the side of each grape.

I made every investigation I could think of. I visited the vines at night with a lantern, and often through the day, but could discover nothing to which I could lay the depredation. Of course, the bees were there in great numbers, but they seemed only to be sucking the juice exuding through the puncture made, but I could not say that a bee was seen in the act of cutting the grapes, and I am glad, yes happy, to be able to say that something else caused the trouble. I was loath to lay it to the bees from the beginning, but as I could see nothing else visiting the grape-vines in sufficient numbers to cause all the trouble and damage, I was considerably mystified, and each visit I would leave the vines in doubt, and the least I could say was, "Miss Bee, it looks awfully suspicious, but before I make up my mind as to your guilt or innocence, I will write to the American Bee Journal and see if any one else can throw any light on the subject." And I must say that I am greatly disappointed that not a single subscriber to the Journal commented on or referred to the subject, when I thought almost every one who had grapes would have some experience along this line. Not even Mr. Hasty referred to the subject. Therefore, I now especially invite all the readers and the Editor to try to ventilate this subject, for doubtless I am not the only one who has scupper-nong grapes.

Could it be possible that there exists an insect peculiar to this climate or locality that does not exist elsewhere, or in higher latitudes, that does such mischief? As I said before, I could see nothing on the grape-vines except the bees, unless it was an occasional wasp or bumble-bee. I could occasionally see several of the latter, and of different sizes and kinds, the names of which I am not familiar enough with to distinguish, but I found it difficult or impracticable to catch them in the act of puncturing. They seemed just to be sucking, as the honey-bees were doing, and going from grape to grape.

In the editorial a reference was made to a Prof. Garman, of the Kentucky Experimental Station, who had found two varieties of tree-crickets working vigorously on grapes at night, and also a June-bug. Well, I feel very well satisfied that there were no crickets or June-bugs in this case, and I am as much at sea as ever as to the real culprit.

During my night visits to the vines I could see no insects upon them, and I know it was not birds, as the Editor suggested with considerable degree of a suspicion. And to sum up all the light I can throw upon the subject, there is nothing but the large bees, which are generally termed "bumble" or "humble" bees.

These so-called bumble-bees were not the kind that bore into wood to deposit their eggs—a kind very numerous here at the first approach of summer, but somewhat smaller, with light colors about the back or end of the wings, being of a very dark color generally over their body—the kind that have nests in the ground; and there were two or more sizes of them, showing them to be two or more different species while similar in general appearance.

And now, to sum up my verdict, sitting as a Court of Investigation, with what little evidence is before me to judge from, I will say: First, I am prepared to clear the honey-bees of doing the damage to the grapes, and do exonerate them from any guilt along that line, any further than to partake of the juice flowing from the grapes punctured by some other unknown insects; and that throws more suspicion on the other insects found upon the grapes from time to time; and this Court is without sufficient evidence to convict any special enemy, and will have to dismiss the case.

At the same time I hope the subject will not be dropped here in its incipiency; but to strengthen the evidence of the innocence of the honey-bee in the eyes of the fruit-growers, every one who has any experience on this subject should add his mite, which may enable fruit-men to discover the guilty culprit, because they, or at least some of them, are ready to believe the honey-bee guilty of this mischief; and not only this, but she is believed to be the means of carrying pear-blight, which is to-day one of the greatest drawbacks the fruit-grower has in this part of the country. But I think it is now generally considered with the best-informed fruit-growers (the reading and up-to-date class) that pear-blight is carried through the sap, while the means of first starting it and getting it in the sap is still a mystery; but I, for one, can clear the bees of that charge also.

I apologize to the Editor for saying that he, at least, made no comment on this subject, as I had overlooked the item on page 750, Sept. 6. Also Mr. Dadant wrote on this matter, on page 861. But I hope others will try to throw some light on this subject, in which so many are interested.

Selma, Miss.

No. 21.—Dadant Methods of Honey-Production

BY C. P. DADANT

I believe I have now given the readers of the American Bee Journal a sufficient idea of our management of bees. After this, I will give some of our ways of disposing of the crop locally. We have succeeded in getting rid of very large crops at fair prices in years past, and without helping to glut the large markets by throwing our crops on these, through commission men, as so many do. These ideas will make the subject of subsequent articles. But before closing up on our methods of management of the apiary, I wish to insist on the advantage of those large hives, and the ease of manipulations they give. Bear in mind that there is nothing patented about them, and also that they are so simple that any carpenter can make them with ordinary tools. I say this to call the attention of the readers to the fact that I am not trying to sell them anything when I recommend this hive.

Permit me to quote to you a short extract from the October Bee-Keepers' Review:

> "From the experience I have had with out-apiaries, I should use the Dadant hive if I were to start again. About all there is to do is to put on the supers and take off the honey. There is no swarming to speak of; no excluders are necessary; always plenty of stores in the brood-chamber; good wintering; no trouble to get the bees started into the supers, as there is above an excluder and a better grade of honey, as most of the early honey goes into the supers."

This friend is rather too optimistic over our methods. We do have occasional swarming in very good seasons, and it sometimes happens that the bees go so freely into the supers that they do not keep enough honey in the brood-chamber for winter. But without doubt our method is among the most simple of successful methods. We do very little superseding of old queens, use very few rattle-traps, such as honey-boards — no excluders—and our tools consist of a smoker and a chisel, except at harvest time.

A European writer using the nom-de-plume of "Sylviac," has written a treatise on bees concerning his method which he calls "Simplism." To my mind, he carries simplism too far, using neither movable-frame hives, Italian bees, comb foundation, extractors, nor any of the new implements. But within certain limits simplicity is a good thing.

If you find an inferior queen in your apiary—a queen that can not fill a decent number of combs after being given a good chance, supersede her. You will be the gainer. But, believe me, do not pinch the head off a first-class queen because she has already given good service for 2 years. I have seen good queens do service 4 years, and then be superseded by their own bees before I had time to notice that they were getting old. Do not feed your bees for stimulation without regard to conditions every spring, but if you have seasons when they are slow to breed, remember that a little *warm* feed, given in proper time, will induce vigorous laying, even in colonies that would have enough without it. I can cite you hundreds of instances where judicious feeding has caused an extra harvest.

Get your colonies in good shape for winter, and you will find them in good shape for spring. Of course, you will have drawbacks with any method, and no system you may try will put honey in the flowers, or flowers in a dried-up field; but when the crops do come, be ready to harvest them. Don't disdain empty worker-combs, no matter how much comb foundation you may have. Comb foundation is good, but worker-combs already built are better. But keep the drone-comb out, unless you want breeders.

Keep the hives warm in spring, fall and winter. But when the hot summer comes give the bees all the room and all the ventilation and the shade that they seem to need. Don't let your bees hang out all over the hive, unless the season is over, and they have nothing to do anyhow. Even then, if the combs are heavy, you may find it advisable to give them enough ventilation to put them at ease.

Don't leave everything to "Nature." Remember that your bees are being domesticated, and that you must look after their welfare if you want them to cause yours. There is nothing in rural economy more profitable for the amount invested than bee-culture, if properly conducted.

Hamilton, Ill.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

A Colorado Sister's Good Report

Dear Miss Wilson:—I have just finished my honey-packing: Comb honey, 1-pound sections, 6000 pounds; over 250 large culls (¾ capped), say equal to 200 pounds; and extracted honey from small culls, 130 pounds —total, 6330 pounds.

Number of colonies, spring count, 43, or 147 pounds per colony. The best colony did work equal to 325 sections. How is that for—

Oct. 8, 1906. Colorado?

That fairly takes one's breath away. Think of starting with 43 colonies and harvesting more than 3 tons of honey! No telling, either, how much she has done besides in the way of cooking, sewing, and the thousand and one other things that fall to the lot of a woman to do. Not much time left to primp, but doubtless being a woman she has found time for that, too.

A Good Report from New Hampshire

A note from Mrs. J. J. Glessner says:

"I had 978 pounds of comb and extracted honey from 7 colonies, spring count."

As her bees are located at "The Rocks," in New Hampshire, one would hardly suppose an abundant honey-flora; but an average of 140 pounds per colony is enough to make green with envy us poor mortals, "in this locality," who didn't get any "average" this year.

Bee-Talk Before the Horticulturists

For the third time Mrs. A. L. Amos "talked bees" before the Horticultural Society which met this year at Broken Bow, Nebr. Her subject was, "Bee-Keeping as Affecting Horticulture."

It will probably not be her fault if fruit-trees are sprayed while in bloom in her county.

Honey Granulating or "Waxing"

Dear Miss Wilson:—Is it a common thing for extracted honey to "wax" where comb honey keeps well? I had the honey from one colony extracted for medicinal purposes in August. It was all capped over and thoroughly ripened before extracting, but now it is waxing. The temperature of the room is from 70 to 75 degrees, and the comb honey kept in the same place is keeping perfectly. Also the extracted honey last year kept all right in the same room. Does the kind of honey cause it to wax? Last year the honey was white clover almost entirely, while this year it is all sweet clover. The little granules form, but they are not hard or sugary, but "waxy." It may "sugar" later, but it has not changed so far. Can you kindly enlighten me on this question? Also, whether the fault is mine or not?

I have my bees all ready for winter, and hope the coming year will bring a good honey season. I would like to see what you "old people in the business" call a good honey-year. (Miss) Elsie A. Cutter.

Grand Rapids, Mich., Nov. 12.

It isn't the easiest thing to understand clearly the condition of your honey. The first thought on reading your letter was that when you spoke of honey "waxing," it merely meant granulating, but aferwards you say the little granules are not hard or sugary, but waxy; that would suggest simply that the honey had reached that desirable state where it was exceedingly thick; but that view is ruled out by the presence of "little granules."

There is no little difference in the condition of different honeys when granulated. Sometimes very coarse grains form, when the very thin liquid portion can be drained off, leaving the grains as dry as sugar. Sometimes there is hardly any appearance of grain, the whole being of the consistency that candy-makers would call "creamy," when no liquid portion can be drained off. Very likely this is what you have on hand.

Coming directly to your question, it is a common thing for extracted honey, where comb honey keeps well, to granulate with the grains more or less coarse, even down to the fineness of the granules that you probably have, the character of the granulation depending upon the kind of honey. One reason why extracted honey granulates sooner than comb honey is probably the churning or disturbance that it gets while being extracted, for it is found that occasional stirring hastens granulation. Another reason may be greater exposure to the air, for extracted honey hermetically sealed in bottles is slow about granulating, and if sealed at the right temperature may not granulate at all.

A higher temperature than 75 derees would retard granulation.

The kind of honey makes a great difference as to the time required for granulation. Some honey begins to granulate almost as soon as it is extracted; some will keep a whole year without granulation, both honeys being in the same room.

Neither of these kinds of honey are to be found "in your locality," but you may as well make up your mind that any honey you may extract will sooner or later granulate.

It is hardly correct to say that honey does not keep well when it granulates. Indeed, many prefer to have it granulate. Neither is it difficult to bring it back to the liquid state. All that is necessary is to heat it. But care must be taken not to overheat it. It may be set on the top of the reservoir of the cook-stove, where it will take several days to liquefy. Or, the vessel containing the honey may be placed in another vessel of water on the stove where it will not heat too rapidly. Don't set the vessel of honey directly on the bottom of the kettle or vessel containing the water, lest it heat too rapidly, but let it rest on a bit of shingle or something of the kind. You will probably find that after being thus heated it will granulate more rapidly than it did before.

Southern
Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

"The Brood-Diseases of Bees"

In a recent letter Dr. E. F. Phillips, Apicultural Expert of the Bureau of Entomology, Washington, D. C., wrote among other things:

> "I also enclose the latest publication on apiculture, Circular No. 79. This is for free distribution."

This is a brief treatise on foul brood and other diseases of bees, especially discussing both American and European foul brood, with treatment of them. Further mention on this subject will be given later. Address the author as above.

The Convention at San Antonio

The "Texas National" has been held, and will be on record as a thing of the past. The Texans were glad it took place in their midst. They enjoyed the pleasure of being able to meet face to face with bee-keepers from nearly all States of the Union, and, in consequence, the visitors were given a "warm welcome." The Mexican supper should be an evidence of this fact.

The coming of the National Bee-Keepers' Association to the extreme South was a good thing in many respects. It gave the "other fellows" an opportunity to see what the South looks like, and to become better acquainted with its bee-men. The latter was true for the bee-keepers of the South; and this meeting brought the North and the South closer together than ever before, as regards bee-keepers at least. Besides, the convention's being held at San Antonio stirred up much enthusiasm in new bee-keepers, and awakened that of the older bee-keepers who have allowed themselves to drift into an old rut. As an evidence of this we had the enrollment of some 40 members to the Texas Bee-Keepers' Association during the few days the National was in session here.

The Texans are proud of the meeting that convened at San Antonio. The largest number ever enrolled on the first evening of any meeting of the National was in attendance at the opening session on Thursday evening, Nov. 8. There were 102 members enrolled then. "And they all behaved so well," was one of the remarks heard by the writer; and I think it is true that there was less wrangling and wasting of time than at any of the meetings I have attended for several years. Long will this meeting be remembered by Southern bee-keepers.

Value of Empty Combs

Empty combs are like money in the bank. A lot of them should always be kept on hand, ready to be placed on the colonies whenever a spurt of honey comes on. Now is the time to begin preparing them. Order the frames and foundation (full sheets) early, and fix them up during the long winter months.

The Bees of the South in Winter

There is no cellaring of bees in the South during the winter. There are many days throughout the winter when bees fly, and if there are no early frosts some honey will be gathered from a few late fall flowers up to nearly Christmas, our broomweed (*Gutterezia texana*) and bitterweed, or sneezeweed (*Helenium tenuifolium*), being two of the main ones on this list.

Cottom blooms until frost during favorable seasons, *i. e.*, when late summer and fall rains have prevailed, which causes the cotton to put out another growth known as "top crop," and unless the Mexican cotton-boll weevil destroys the buds and blooms, some honey is gathered from this source until late in December.

The two essentials to successful wintering here in the South are plenty of stores and lots of young bees to last until late into the springtime. Some protection to the outside of the hives is desirable, especially when the apiary is located in a bare location.

If your bees are not in such a condition already, they should be attended to yet, as long as the weather will allow it. Putting it off any longer may result in heavy winter losses. You can't afford this. In the first place, it is cruelty to let your bees starve; and, secondly, it means whether or not your bees will earn for you a living or not during next season.

Texas Honey Imports

Although our State is a great honey-producer, it has been impossible to fill the demand with the home products, hence many carloads of mostly extracted honey are shipped in from Colorado and some other Western places. The Texas producers have nearly always orders far ahead of the harvest, hence the crop is disposed of early in the season. After buyers are unable to obtain any more Texas honey, they seek it in Colorado and California.

A thing of interest, however, was a recent carload shipment of *comb honey in sections*, and we reproduce a clipping from the Dallas Semi-Weekly News:

Big Shipment of Honey.

Dallas, Tex., Oct. 18.

It is not in the memory of local dealers when such a thing occurred before, therefore the fact is noted with more than ordinary interest by all concerned, that a carload of comb honey in sections reached Dallas yesterday. The shipment was consigned to A. A. Jackson & Co., and is said to be the first car of Colorado honey ever shipped into the State of Texas. This 30,000 pounds of fancy No. 1 honey was placed on the local market yesterday afternoon, and is said to be finding a ready sale both to the local trade and outside consumers. The current price quoted for honey is 15½ cents.

Comb honey in sections is a rare product in Texas, as the honey is either bulk comb or extracted. Very few bee-keepers here produce section honey to any large extent, as comb honey in bulk is more profitable.

Bee-Keepers' Souvenir Postal-Card. —We have secured a somewhat comic Souvenir Postal Card for bee-keepers, printed in 4 colors—red, yellow, blue and black. At the left end the following are pictured: An old-fashioned straw bee-hive with bees circling around and above it; a sad-eyed bear with his "hands" over his sweet-loving heart; a jar and a section of honey; also a spoon with a card attached, reading, "Come let us spoon awhile." At the bottom of the card, and to the right, are these words: "Eat thou honey because it is good."—Prov. 24:13. At the left of the bear's head, and encircled with bees, is this sentence: "I can not BEAR to lose you;" and at the top, and to the right of the bear's head and bees, is this stanza:

O won't you BEE my HONEY,
And cheer this lonely heart?
For I would hug you all the time,
And we would never part.

Prices, postpaid: 3 cards for 10 cents (stamps or silver), or free with the American Bee Journal one year at $1.00; 10 for 25 cents; or 25 for 50 cents. There is a blank space on the card about 2 by 2¼ inches in size for writing. Send all orders to the office of the American Bee Journal.

Canadian Beedom

Conducted by Morley Pettit, Villa Nova, Ont.

How to Run Combs in the Extractor

I notice on page 866, an item on running the top-bar first in extracting; and owing to the dip of the cells it is certain the honey will fly out more freely than when run the opposite direction. I just rise to say that I have been practising the suggestion, and find no inconvenience in *reversing* the extractor.

Bewdley, Ont. Jas. Sackville.

As the motion of the extractor is to draw the comb away from the honey so quickly that the honey is left behind, going at a tangent against the side of the extractor can instead of staying with the comb in its *curved* motion, it follows that as nearly as possible the bottom of the cell should go ahead, leaving the open top to follow, and allow the honey to escape behind. Working out this theory, the bottom-bar should precede the top-bar in its journey around the extractor, as the bottom of each cell is a little nearer the bottom edge of the comb than the top. After reversing, the crank can be turned in the opposite direction and thus give the same precedence as Mr. Sackville suggests.

The objections are: First, many hired men will not give thought enough to place the combs right, especially when there are so many other little things they have to be taught to do correctly. Second, after reversing it is easier for many to start up the crank again in the same direction.

* * *

Robber-Bees and Their Treatment

There is perhaps no condition that arouses the ire of the bee-keeper more thoroughly than this lamentable desire of the bees to relieve some poor unfortunate of its scanty stores. Generally the strongest colony will select the weakest, and either quietly filch its stores or swoop down on it in clouds and carry away everything movable.

A queenless colony is generally a sure victim. However, a weak colony is quite apt to be entirely destroyed even when the queen is present.

When the robbers persist in their raids from day to day there is one remedy that will prove of value, and will surely stop the worst case when it occurs in the spring. I have never tried it in the summer, but I believe it would work as well then as earlier.

As soon as robbing is noticed remove the victim from its stand. Place at once an empty body in its place. Now go to some reasonably strong colony and place a queen-excluder over the frames, and the body of the robbed hive over all.

Before making the change it would be well to learn positively whether or not the robbed colony contained a queen. If there is no queen present, and no brood, supply it with a frame of brood containing hatching eggs.

If the queen is present so much the better. The robbers will enter the empty hive-body, and in a few hours finding nothing to carry away, will give up the job.

Remove the empty body the following night, and if any of the field-bees that belonged to the colony that formerly occupied the stand are in the hive, brush them into their old home, which is now on another hive.

Nine days after making the double colony, examine the comb to see if queen-cells have been drawn. If none are present, close the hive.

Should there be plenty of brood, the upper body may be placed on a new stand. It is better to wait until the brood in the upper body is hatching before making the change.

If, however, queen-cells are present the two bodies must be separated on the ninth day.

This method of tiering up is quite successful to stimulate backward colonies in the spring, even should there be no robbing. When so tiered up both colonies do better than either would do if dependent upon the limited amount of heat each could develop to build up.—E. H. Dewey, in Mail and Empire.

This plan should be followed with great caution. The robbed hive contains many robbers during the day, and if set on another hive at that time is very liable to start robbing there. Especially is this the case if it is first opened up to ascertain whether it has a queen. The better plan would be to close the robbed hive until evening, then open the entrance to let the robbers fly home, when it can at once be set on the other hive, as Mr. Dewey describes. When the 2 hives are to be separated again, the stronger one should be removed to a new stand, and the weaker one left to eatch the returning field-bees.

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Mice Eating Honey—For the Hastyman

Once there was a man who liked tobacco. One day he was very hungry. He found some bread mixed with tobacco, but he would not eat it. Then he found some bread without any tobacco, and he ate it. Afterward he found some tobacco without any bread, and he thought it tasted better than the bread. But he didn't want the two mixed.

Once there was a man who thought things over afterward. He had some mice. He gave them some bread mixed with honey, and some bread without any honey. They ate the bread without any honey, but not the other. They didn't want the two mixed.

Query.—Wouldn't they think the honey better than the bread if they could get it without being mixed?

C. C. M.

Moving Bees a Short Distance

I have 7 colonies standing on the lawn, close together, on the south side of the house, which I wish to move to the further side of the garden, 25 paces from where they now stand. When will be the best time to move them, placing them in pairs in their new location, facing south as they do now? How would it do to put them on their new place about March 1, just before the bees begin to bring in water, as that is their first flight abroad for the season, which occurred on March 6, last spring? Would it be better to wait until apple-bloom? At that time I have the sections on and the bees are storing. Of course, when I put them on their new place, I shall put a board in front of each hive for them to bump against, and, when they first fly, smoke them and make them all take wing. Would it do to pick them up now in November and move them to their new place? CONNECTICUT.

ANSWER.—If you could know what day they will take their last flight before settling down for the winter, there would be nothing better than to move them quietly on the afternoon or evening of that day. The trouble is that you can't tell about the time of their flights; but for the sake of having something to go on, let us suppose that their last flight is to be Dec. 1, and that they will not fly again till Feb. 15. It will be all one whether they are moved the evening of Dec. 1 or any time up to and including Feb. 14, or even the morning of Feb. 15 before they fly, except as to the matter of disturbance. On the evening of Dec. 1, and for several days afterward, they will not be easily stirred up, and will hardly notice being moved. Gradually, as their imprisonment continues, they will take more notice of any jar, and after they have continued long enough the disturbance might cause some of them to fly out to their death. But if you wait till the morning of Feb. 15, there will be no need of gentle handling; indeed, all the better if you bump them pretty hard when setting them down in their new places, for they will have a chance to relieve themselves in a few minutes.

In addition to the precautions you have mentioned, it may be well to shut the bees in the hive before moving them on the morning of Feb. 15, then when the thermometer in the shade shows 45 or 50 degrees, the air still, and the sun shining, pound on the hives, giving each hive four or five good knocks in turn, and after making the rounds thus two or three times open the entrances. Have everything in the old location cleaned up, and changed as much as possible, so that any bees that do go there will find nothing homelike. Don't think of waiting till fruit-bloom, if you are not obliged to do so.

Wintering Bees on the Summer Stands in Air-Spaced or Chaff Hives

After a careful reading of "Forty Years Among the Bees" I have concluded that you consider a suitable cellar as the best place for bees in the winter. It would save a great deal of trouble and labor if bees could be successfully wintered on the summer stands, and it seems to me that a hive-body could be made that would do it.

1. In this latitude, can bees be successfully wintered on the summer stands, if air-spaced or chaff hives are used?

2. Are air-spaced hives, with the air-chamber rendered impermeable to air by a lining of resin-sized building paper, preferable to chaff-hives?

3. I understand that there is but one manufacturing concern making an "air-spaced hive", and they lay stress upon the fact that there is not a nail passing from the outside to the inside of the hive—a necessary precaution—as such metallic conductor during a low temperature outside will attract a thick coating of frost within. Do manufacturers generally make chaff-hives in this way?

4. What is the best plan to adopt in an effort to winter bees on the summer stands? NEW YORK.

ANSWER.—I wonder if by some means you are not overestimating the trouble and labor of cellaring bees. My bees average a distance of something like 5 rods from the cellar, and it is no more than a day's work for one man to take in 200 colonies, and another day's work to take them out. I think most methods of wintering out would take more time and labor. I think, however, that you are not so much comparing indoor with outdoor wintering, but seeking a hive that will require no trouble and labor to prepare for winter, but will be all right just as it stands the whole year round. You are not the first one who has felt a longing for just that sort of a hive, and years ago the search for it was more earnest than at the present day. If we had merely the wants of the bees to consult, without any reference to the wants of the bee-keeper, we probably would go back to the old-fashioned straw-skep, than which no modern invention affords for the bees a better all-the-year-round home. Chaff-hives were in high esteem for a time, but they are unwieldy, and that they did not fulfill what they promised probably accounts for the fact that not much is said in their favor nowadays. So, keeping in mind past history, it might be advisable for you, if you think of trying double-walled hives, to make the trial on a small scale at first, no matter whether you winter out or in. Thus much by way of generalizing; now for specific answers:

1. Yes, bees can be wintered in double-walled hives successfully on the summer stands in your latitude, or in single-walled hives, either—indeed they were thus wintered before double-walled hives were thought of. Nor are you to take it that because the cellar is the best for me it is necessarily the best for you, although we are in precisely the same latitude. I think you don't have it so cold as here. But that doesn't make the greatest difference. You don't have such strong winds. Neither does that make the greatest difference. The special point of difference is that a New York wind doesn't have the staying qualities of an Illinois prairie wind. It doesn't blow all day long with never a let-up of a minute to take fresh hold. It's the steady, long-continued blow that grips with icy clutch the heart of man.

2. I don't know; I think they might be a little better if made entirely air-tight. And yet under some conditions it is possible that entire lack of porosity in hive-walls might not be best.

3. I am not sure whether any nails in chaff-hives are allowed to pass through so that the same nail would be exposed at the outer and the inner surface; but there need be no difficulty in avoiding such a thing.

4. It might be worth while to try side by side both single and double walls. Of as much importance—perhaps more—are the surroundings. I would rather trust a single-walled hive in a protected place, sheltered by buildings or trees, than a double-walled hive fully exposed to the sweep of the winds. If no other protection is at hand, go back to that of our grandfathers. Make a shed, under which the hives stand in a row, only a little higher than the hives, closed on all sides but the side of the entrances, and then pack straw in all the vacant space inside the shed. Even corn-stalks piled about a hive, wigwam-shape, produced quite good results with one man not 5 miles from me.

Building Up a Nucleus Into a Full Colony in Winter

I wish to try the experiment of starting with a nucleus (a part of a colony and old queen; I have a 2-story hive with a queen in each story divided by excluder), and build up during the winter to a strong colony by spring, by feeding sugar candy or syrup or honey, and meal. Can it be done? Bees work here at times all winter. I saw mine bringing a little pollen last January, and for the last 4 days, they have got to work shortly after sun-up, and about 10 a. m. the pollen would begin coming in, but not before 10, and about 3 the pollen carrying stopped. About 40 to 50 per cent of the bees coming in would have pollen during the time from 10 to 3. I think there will be at least 10 or 15 days out of each 30 of the next 120 during which bees will be able to fly and gather anything available. So much for climate, temperature, etc.

I expect to place the hive with nucleus to be built up, against the south wall of my dwelling and shelter it above. Please give the main points of procedure and mistakes to be avoided in order to build up as above indicated.

On page 562, in answer to "Seeker," ("that's me") you say a nucleus is not the proper place to have a queen-cell started. Well, the 2 divided (making 4) colonies made as described by "Seeker," started 2 (yes, over 2 dozen times 2) queen-cells and reared 21 queens, and each of their colonies made about 100 pounds of comb honey, all told, and this in a poor season for bees. I have heard of only one better yield per colony in the neighborhood, viz., 130 pounds total. It looks to me as if Dadant's Langstroth (page 263, paragraph 513) in recommending a "comparatively weak" colony to rear queens (true it doesn't say "start queen-cells," but doesn't it imply that?) is against your position as stated above. What is the difference between a "comparatively weak colony" and a "nucleus?" Why is a nucleus not a fit place to start queen-cells? I've read "A B C of Bee-Culture" on "Nucleus." **Seeker.**

Answer.—It's an unthankful task to throw cold water upon a project over which some one has studied until enthusiastic over it; but I confess I don't feel very hopeful as to the result of your experiment. At the same time I anything about it for sure, and shall be glad to sit at your feet to learn about it after you have made the trial. I'm not sure that I know enough to say just what you should do and not do; but I suppose the main things to be done are to keep the hive warm, have an abundance of stores always on hand, and feed thin feed at some little distance from the hive when the weather allows, so as to make it appear to the bees as much like a natural flow as possible. The chief thing to avoid is the stirring up of the bees when they would be chilled by going out; and there will be little danger of this if you do not feed in the hive.

The proof of the pudding is the eating, and if you got excellent results by a certain plan of dividing a colony, it may be safe for you to follow the same course again. All the same, I still think that a nucleus is not only "not the proper place in which to have a queen-cell started," but that it is so poor a place that I wouldn't take queens so reared as a gift. It is not entirely clear as to what the strength of your colonies were after the division, and it may be that they were quite strong enough to do good work; but if so it is doubtful that either part would be weak enough to be called a nucleus.

Just exactly what is the dividing line between a nucleus and a weak colony it may not be easy to say. When a 3-frame nucleus is spoken of, I think it generally means 2 frames fairly filled with brood with sufficient bees to cover the brood, and a third frame containing honey. Perhaps it would be right to say that anything beyond this would be called a colony. But I don't know that the line is exactly drawn, any more than the line is exactly drawn between a boy and a man.

Your question why a nucleus isn't a proper place in which to start queen-cells is not as easily answered as the question why I think it isn't a fit place. I think it isn't a fit place because others think so, and more especially because in the callow days of my bee-keeping I tried it and reared some very poor queens from nuclei. In one case I used a very weak nucleus. A queen was reared that looked all right so far as I could judge. She laid one egg—in a queen-cell—and then she gave up business. As to the reason *why* a nucleus is not a good place to start queen-cells, one reason may be that they may not always be kept as warm as in a larger body of bees; and another that they may not always be fed as well.

Yes, on the page which you quote, Dadant's Langstroth very plainly implies that queen-cells are not only to be reared but *started* in comparatively weak colonies. But you will note that they are comparatively weak "either because their queens are old, or because they are not prolific," and these colonies are chosen not because they are weaker than others, but because they have queens so poor that they deserve death, and the weakness of the colony is proof of the poorness of the queen. These colonies, however, are by no means nuclei, hardly weak colonies, only *comparatively* weak; and please notice that in selecting one of these colonies you are to take "not the poorest, unless it is populous enough to rear good queens." Doesn't that imply about as plainly as a thing can be implied that there is such a thing as having a colony not strong enough to rear good queens? And if a *colony* can be too weak, a nucleus is weaker than the weakest colony.

The importance of having good queens is so great that it is taking none too much pains to trust the starting of cells to a full colony. After the cells are matured, it will be all right to give them to nuclei until the queens are fertilized.

It does me lots of good to know that you approve of the spirit in which this department is conducted, as mentioned in the rest of your letter, which is not printed; but then you see I've *got* to be good-natured, for if I didn't talk good-naturedly to a beginner like you, it would be just like you to get mad and go off and do some fool thing like trying to start queen-cells with a teaspoon of bees; and then how do you think I'd feel?

Reports and Experiences

Burying Bees for Winter

I am having to answer so many letters concerning the burying of bees (page 913), that I am going to try once more through the American Bee Journal.

There seems to be a great fear in the minds of many that the bees will smother. Don't be afraid of that; put plenty of straw on top, and cover them up tight. But be sure that you fix them so that the water will run off, so the trench will be dry.

Put the bees in in the fall, and take them out in the spring at the same time you would if wintering in the cellar.

This seems like a queer way to winter bees, but the 2 years I have tried it I have had better success than the majority of those who have reported in the bee-papers, or of those I have known who have wintered their bees in some other way. *I shall bury all of my bees next week.* **C. H. Benson.**

Bellevue, Mich., Nov. 19.

Bees Robbing or Playing?

This morning (Nov. 5.) at 10 a.m., I noticed unusual commotion at No. 173. As few other bees were flying, and as the thermometer stood 53 in the shade, although there was bright sunshine, I at once suspected robbing. I was especially interested in noticing that there was quite a display of bees running up the front of the hive before taking flight, as Mr. Hasty had said, on page 918, that such a thing means "robbing nine times out of ten."

Getting a veil for a close view, I could see no other symptom of robbing—the bees were playing, and after the usual time for a play-spell they settled down quietly. A little later a number of other colonies were playing, and some of the bees ran up the hive front, but not so many as in the first case.

Certainly not one out of ten, to say nothing about nine out of ten, of these cases had anything to do with robbing. I have seen a good many cases of robbing, and I never noticed that the bees ran up the front of the hive on leaving it, and I have noticed them doing so when no robbing was going on. I don't say I never saw robbers running up the front of the hive—I only say I never noticed it. Most assuredly I shall watch closely the next case of robbing I see. I have seen colonies where every bee ran up the front before taking flight, and this was kept up all day long every day. The reason was that weeds and grass were so high at the entrance that there was no chance for the bees to take flight from the alighting-board.

Mr. Hasty, how are we going to settle whether running up the hive-front really is a sign that robbing is going on?

Marengo, Ill. **C. C. Miller.**

Poor Season for Bees

We have had another poor season for bees. Bees were nearly all very weak last spring. Very few of them built up strong enough to do anything with the early flow. Then the nights were so cool that comb-builders would be driven from the supers nearly every night. The late flow was good while it lasted, but was cut short by drouth.

I had 9 colonies, spring count. I had 3 natural swarms and 2 artificial ones. All are in good shape for winter, with from 30 to 50 pounds of honey for stores. I took off about 100 pounds of nice honey, and we are eating honey at our house now.

A premium queen I received came through all right, and was safely introduced to a colony of black bees. The last blacks disappeared some time ago, and now they are a strong colony of Italians in fine shape for winter. **Freeman Davis.**

Center, Mo., Nov. 6.

Honey Crop a Failure—Wintering

The honey crop was a failure here this season, caused mostly, I think, by continual wet weather. Bees are going into winter quarters lighter than for years, as it rained every day for 2 weeks beginning Oct. 31, with aster in full bloom, upon which we depend largely for winter stores for our bees. I do not anticipate any loss among my 50 colonies from being short of stores, unless we should have bad weather until late next spring.

I will winter all my lightest colonies in the cellar, and give them attention next spring. Brood-rearing was also discontinued earlier than usual this fall in my apiary, which is unfavorable to wintering most successfully. My experience has been that if a colony has abundance of stores and young bees they need no other protection, provided the hive is not exposed to north winds. A super filled with chaff on top of such colonies to absorb moisture is all that is required. Putting outer cases on such colonies is waste of time and labor. **James H. Wolfe.**

Captina, W. Va., Nov. 7.

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CONVENTION NOTICES.

Chicago-Northwestern.—The Executive Committee of the Chicago-Northwestern Bee-Keepers' Association take great pleasure in making the following announcement:

Through the kindness of friends it is possible to hold the next convention of our Association in the fine hall known as "Brunt Hall," in the Bush Temple of Music, corner of Chicago Avenue and Clark Street, Chicago. This is the same hall where the National Association met last December. Arrangements have been made with the restaurant in the basement to serve good meals at very reasonable rates. The Revere House will lodge bee-keepers at their usual low rates. This hotel is at the corner of North Clark and Michigan Streets.

Dr. C. C. Miller writes: "I don't know how much I can do toward making or marring the convention, but, Providence permitting, I'll be there."

N. E. France says: "So far as I know now, I can come."

C. P. Dadant writes: "I promise to attend your convention if possible."

Let us have a full attendance of all the bee-people (ladies and gentlemen) within reach of Chicago. Come and see the great International Live Stock Exposition, and spend part of your time at the bee-keepers' convention.

The meetings will be as follows: Wednesday, Dec. 5, 10 a.m. to 12 m; 2 p.m. to 5:30 p.m.; and 7 p.m to 9:30 p.m. Thursday, Dec. 6, 9 a.m. to 12 m.; and 2 p.m. to 4 p.m.

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GEORGE W. YORK, Pres.
MRS. N. L. STOW, Vice-Pres.
HERMAN F. MOORE, Sec.
Executive Committee.

Minneapolis.—The 18th annual meeting of the Minnesota Bee-Keepers' Association will be held in Minneapolis at the same time that the Minnesota State Horticultural Society will hold its exhibition of fruit. The sessions will be held Wednesday, Thursday and Friday, Dec. 5, 6 and 7, 1906, in the First Unitarian Church, Cor. of 8th St. and Mary Place. A cordial invitation is extended to all bee-keepers to attend, as we believe our program will prove to be a helpful one, as indicated by the following partial list of subjects:

"Bee-keeping in Minnesota in the Early Days," by W. K. Bates; "Honey-Plants Near Yankton, S. D.," by J. J. Duffack; "Value of Bee-Keeping to the General Farmer," by H. V. Poore; "Bee-Inspector's Report," by Wm. Russell; "Bee-Keeping in Montana," by H. Barr; "How I Manage Bees in the Production of Comb Honey," by Scott La Mont; "Joining the Horticulturists in a Body," by Frank Yahnke; "Economy of Work in the Apiary," by G. H. Pond; "A Beginner's Experience with Caucasian Bees," by J. E. Stryker; "Something about the Honey Exhibit at the Winona Fairs," by Mrs. F. V. Berthe; "Bees in Northern Iowa," by Mrs. E. L. Minor; "Reminiscences of Bee-Keeping," by L. E. Day; "Bee-Keeping in Spokane, Wash.," by J. A. Yeomans; "Selling Honey at Home," by Mrs. W. W. Lee.

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ROOT'S GOODS

At Root's Factory Prices

LARGE DISCOUNTS OFFERED ON EARLY ORDERS. Have a large stock on hand, and can supply promptly. Freight Rates from CINCINNATI are the LOWEST, ESPECIALLY FOR THE SOUTH

As almost all freight now goes through Cincinnati. You will save money buying from me. Catalog mailed free. Send for same.

Will buy or sell you . . HONEY If you have any to sell, . . .

mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses, Freeman and Central Aves.

Honey and ✦Beeswax✦

CHICAGO, Nov. 7. — The market is taking honey, both comb and extracted, in a very satisfactory way. The price of No. 1 to fancy comb is 15@16c; off grades, 1@2c per pound less. White extracted, 7½@8c; amber, 7c; dark, 6@6½c. All of this is governed by quality, condition, and package. Beeswax, 30c per pound.
R. A. BURNETT & CO.

KANSAS CITY, Nov. 8.—The demand for both comb and extracted honey is good, receipts light. We quote fancy white comb, 24 sections, at $3 25; No. 1, $3; No. 1 white and amber, $2.75. Extracted, white, per pound, 7c; amber, 6@6½c. Beeswax, per pound, 25c.
C. C. CLEMONS & CO.

CINCINNATI, Oct. 20.—The demand for comb honey is good. No. 1, white, brings 14½c wholesale, and 16c retail, by the case. Off grades less from 2@3c per pound. White clover extracted brings in barrels, 8c per pound; in cans, 8½c; amber grades, light, 6c in barrels; dark, 5½c in barrels; in cans, ½c per pound more. Beeswax, 30c. C. H. W. WEBER.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

NEW YORK, Nov. 19.—We are having a good demand for white comb honey of particularly fancy stock, and same finds ready sale at 15c, and 13@14c for No. 1 white. Receipts up to date have been quite numerous, but we expect that from now on they will be lighter, as the bulk of the comb honey, we believe, has been marketed. No. 2 white, amber and buckwheat are in fair demand, with sufficient supplies to meet same. We quote at from 10@12c, according to quality. Extracted honey is in good demand, principally California stock, and strictly white sage is now selling at 7½@8c; light amber at 7c, and amber at 6½c. Extracted near-by, New York State amber and buckwheat, at 6@6½c, with a fair demand. Southern is in good demand at 55@65c per gallon, according to quality, for good average stock; 75c for fancy. Beeswax, 30c.
HILDRETH & SEGELKEN

DENVER, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Nov. 3.—The honey market is rather quiet at this date, owing to the market being flooded with comb honey; selling slowly at from 14@16c. Extracted amber honey sells at 5½@6½c. White and fancy grades find sale at from 7½@8½c. There is not so much moving as one might be led to believe. Beeswax is dragging at 29@30c for choice yellow.
THE FRED W. MUTH CO.

INDIANAPOLIS, Nov. 15.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Oct. 19.—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
THE GRIGGS BROS. & NICHOLS CO.

HONEY AND BEESWAX
When consigning, buying or selling, consult
R. A. BURNETT & CO.
199 SOUTH WATER ST. CHICAGO, ILL.

QUOTE US We Buy Car-loads of
Extracted Honey!
THE FRED W. MUTH CO., 51 Walnut St., Cincinnati. O.
41Atf Please mention the Bee Journal.

WANTED TO BUY AT TOP PRICES
WHITE CLOVER HONEY, both Comb and Extracted.

If you have any WRITE AT ONCE, saying how much you have, how it is put up, and your lowest price, and all about it, in first letter.

C. M. Scott & Co., Bee-Keepers' Supplies, Incubators, Brooders, Etc.
——Catalog Free——
29Atf **1004 East Wash. Street, INDIANAPOLIS, IND.**

HONEY! HONEY! HONEY!

Have you any to sell? If so, see us before selling. We pay highest Market Price for both Comb and Extracted Honey—also Beeswax. . . .

GRIGGS BROTHERS, 521 Monroe Street, Toledo, Ohio
Mention Bee Journal when writing.

DADANT'S FOUNDATION

IT EXCELS

Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation OUR SPECIALTY. We devote our time and energies to making **THE VERY BEST COMB FOUNDATION THAT CAN BE MADE.**

For 27 years we have led in the manufacture of this article. Don't experiment with a new make. Insist on Dadant's—get Dadant's and you will have the best.

It will cost you no more than any other.

WORKING BEESWAX

We work beeswax into Comb Foundation for the bee-keeper direct. Send for our prices and catalog. Remember you take NO CHANCES when you get our foundation. We absolutely **GUARANTEE SATISFACTION IN EVERY WAY.**

Agents for our foundation everywhere.

Early order discounts on all kinds of goods for the bee-keeper.

DADANT & SONS, Hamilton, Ill.

WE WILL BUY

New Crop Honey, comb and extracted, in any quantity. If you have a crop to dispose of, write us fully as to quality, quantity, style of package, etc., and you will have our answer by return mail. If we should fail to come to an understanding as to price, we may arrange to handle your crop on consignment, feeling confident that we can do you justice in every respect.

WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

BEESWAX

We are in the market to buy Beeswax at any time of the year. Write us when you have any to sell.

HILDRETH & SEGELKEN

265 & 267 Greenwich Street - NEW YORK, N. Y.

30Atf

46th Year DECEMBER 6, 1906 Number 49

AMERICAN BEE JOURNAL

Apiary of H. S. Little, of Newbury, Mass.

Apiary of Ellis S Stenabaugh, of Flemington, N. J.
(See page 994)

TWENTY-PAGE NUMBER

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES.

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec06" on your label shows that it is paid to the end of December, 1906.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows that the money has been received and credited.

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Nothing less than ½ inch accepted.

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52 "	30 "	2000 "	30 "

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Reading Notices, 25 cents, count line, subject to the above discounts.

Goes to press Monday morning.

National Bee-Keepers' Association

Objects of the Association.

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00.

General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

☞ If more convenient, Dues may be sent to the publishers of the American Bee Journal.

Bee-Keepers' Souvenir Postal-Card.—We have secured a somewhat comic Souvenir Postal Card for bee-keepers, printed in 4 colors—red, yellow, blue and black. At the left end the following are pictured: An old-fashioned straw bee-hive with bees circling around and above it; a sad-eyed bear with his "hands" over his sweet-loving heart; a jar and a section of honey; also a spoon with a card attached, reading, "Come let us spoon awhile." At the bottom of the card, and to the right, are these words: "Eat thou honey because it is good."—Prov. 24:13. At the left of the bear's head, and encircled with bees, is this sentence: "I can not BEAR to lose you;" and at the top, and to the right of the bear's head and bees, is this stanza:

O won't you BEE my HONEY,
And cheer this lonely heart?
For I would hug you all the time,
And we would never part.

PRICES, postpaid: 3 cards for 10 cents (stamps or silver), or FREE with the American Bee Journal one year at $1.00; 10 for 25 cents; or 25 for 50 cents. There is a blank space on the card about 2 by 2½ inches in size for writing. Send all orders to the office of the American Bee Journal.

"The continuous advertiser gets the bulk of the business, because others are not advertising, and he is."

Special Bargains

in dovetailed **HIVES.** Plain and Beeway **SECTIONS.** Hoffman **BROOD-FRAMES.** Section-Holders, Separators, etc.

We are enlarging our FACTORY and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you DELIVERED PRICES that will surprise you. Our stock is all new and up-to-date; we do not keep poor or 2d grade goods. Our sizes are standard. Quality and finish can not be beat by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers and guarantee all our Goods to give entire satisfaction, or refund the money.

Minnesota Bee-Keepers' Supply Co.
JOHN DOLL & SON, Proprietors,
Nicollet Island, No. 33, MINNEAPOLIS, MINN.

Mention Bee Journal when writing.

Dittmer's Foundation

is the best foundation for you to use, because it is tough, transparent, will not sag, and has the odor of pure beeswax.

WORKING WAX FOR CASH A SPECIALTY

This is the cheapest way for you to secure your foundation.

BEESWAX ALWAYS WANTED

Our warehouse is well filled with all kinds of **Bee-Keepers' Supplies.**
4 percent Discount during December.

GUS DITTMER, Augusta, Wisconsin

IF YOU WANT TO KEEP POSTED UPON THE
GREATEST * POLITICAL * QUESTION
OF THE DAY, YOU MUST READ

The Defender

the NATIONAL EXPONENT of the PROHIBITION MOVEMENT. 16 pages, weekly; illustrated. To New Subscribers, **50 cents** for one year.

WILLIAM P. F. FERGUSON
Editor and Publisher
400 WEST 23RD STREET, NEW YORK, N. Y.
35Atf Please mention the Bee Journal.

COILED SPRING FENCE

Closely Woven. Can not Sag. **Every wire** and **every twist** is **a brace** to all other wires and twists full height of the fence. **Horse-high, Bull-strong, Pig-tight.** Every rod guaranteed.

30 DAYS FREE TRIAL

and sold direct to farmer, freight prepaid, at lowest factory price. **Our Catalogue tells how Wire is made--how it is galvanized—why some is good and some is bad.** Its brimful of fence facts. You should have this information. Write for it today. Its Free.

KITSELMAN BROS.,
Box 85 MUNCIE, INDIANA.

Wisconsin Basswood Sections
And Prompt Shipments
Is what we are making for our customers.
— DOVETAILED HIVES AND SHIPPING-CASES —
We carry a full line of **SUPPLIES.** Ask for Catalog.
THE MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the American Bee Journal when writing Advertisers

KING OF ALL ENGINES

The Lion Engine

is sold direct from FACTORY to USER

Acting on the theory that "testing is proving" we will send any responsible person, on certain very easy conditions, one of our three h. p. gas or gasoline engines on **10 days test trial.**

This engine is **no experiment,** but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

Our igniter and mixer are of the most simple and reliable character. The gasoline is always properly vaporized and the igniter point never comes together unless a spark is required.

The fly ball type of governor is used, which automatically controls the exhaust, igniter and the gasoline; it also allows the speed to be changed from 100 to 600 revolutions per minute while the engine is in motion—**a very superior feature.**

LION GAS OR GASOLINE ENGINES

are simple in construction and

EASY TO OPERATE

They are used for all purposes where power is required for operating private electric-lighting plants, small factories, printing offices; farm machinery, such as cream separators, feed-grinders, corn shellers, wood-sawing machines, etc., and for a thousand and one other purposes.

WRITE US A LETTER LIKE THIS:

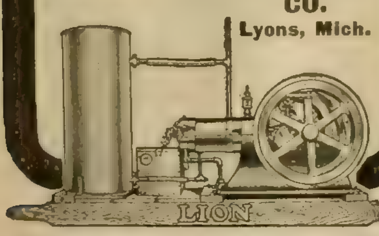
LYONS ENGINE CO.,
Lyons, Mich.

Gentlemen: I am about to purchase a gas or gasoline engine for ____________ purposes and wish you to send me full particulars about your approval offer as advertised in American Bee Journal. Yours very truly,

Name ____________
Town ____________
State ____________
Street No. or P. O. Box ____________
R. F. D. ____________

When writing, please **state definitely** for what purpose you wish to use this engine and whether gas or gasoline is to be used for fuel. **This information is very important to us.** Please remember we send the engine, **not the engine agent.**

LYONS ENGINE CO.
Lyons, Mich.



Tennessee-Bred Queens

All from Extra-Select Mothers

3-band from Imported Dark Leather, Moore's Long-Tongue, or my own. Goldens from Laws, Doolittle's or my own. Caucasians and Carniolans from direct Imported.

AFTER APRIL 15TH.

	Italians Before July 1st			After July 1st			CARNIOLANS			CAUCASIANS		
	1	6	12	1	6	12	1	6	12	1	6	12
Untested	$ .75	$ 4.00	$ 7.50	$ .60	$3.25	$ 6.00	$ .85	$ 4.50	$8.00	$ .95	$ 5.00	8.50
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50	1.20	6.00	10 00
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50	1.70	9.00	16.00
Select Tested ..	2.00	10.00	18.00	1.50	8.00	15.00	2.10	10.50	18 50	2.20	11.00	19.00

Straight 5-band Golden Breeders.......	$10.00
Select Golden Breeders	3.00
" 3-band "	3.00
" Carniolan "	3.10
" Caucasian "	3.25

1-frame Nucleus (no queen)	$1.50
2-frame " "	2 00
3-frame " "	2.50
4-frame " "	3.00
1 full colony without queen in 8-frame dovetailed hive......................	6 00

Bees by the pound in light shipping-boxes, $1.00 per pound.

Select the Queen wanted, and add the price to the above prices.

Discounts on large orders. Contracts with dealers a specialty. No bee-disease has ever been in this section.

13Dtf **JOHN M. DAVIS, Spring Hill, Tenn.**

Long, Good Advertising

27 years ago bee-keepers were surprised by the first Patent Bee-Smoker.

Bingham's Patented Smoker Improvements

Are dated 1878, 1882, 1892 and 1903. 6 percent Discount for October orders.

Any number, any size, copper or tin, delivered any time.

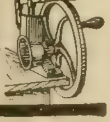
T. F. BINGHAM
Farwell, Mich.

Mention Bee Journal when writing.

EGG MAKING

is a hen's natural work. Cut bone is the raw material she needs to make her lay an egg a day. A **CROWN BONE CUTTER** will prepare the food from scrap bones quickly, easily. Write for catalog—tells about the Crown.

Wilson Bros., Box 618, Easton, Pa.



ITALIAN QUEENS

Too late to deliver them? Yes! But not too late to **begin to get ready for next spring!** I give personal attention to correspondence. My queens are guaranteed. Write at once to

ROBERT B. McCAIN,
2Atf OSWEGO, ILL. R.D. 1.

Mention Bee Journal when writing.

THE AMERICAN FOOD LABORATORY

E. N. EATON, M.Sc., Chemist.
4 years State Chemist, Minnesota.
6 years State Analyst, Illinois.
1235-1248 Caxton Building.
334 Dearborn Street, Chicago, Ill.

Samples of Honey analyzed. Correspondence solicited.

THE EXCELSIOR

Send for free Catalogue.

Hatch Chickens by Steam with the

EXCELSIOR INCUBATOR Or WOODEN HEN

Simple, perfect, self-regulating. Hatch every fertile egg. Lowest priced first-class hatchers made.

GEO. H. STAHL, Quincy, Ill.

Mention Bee Journal when writing.

The Rietsche Press

Made of artificial stone. Practically indestructible, and giving entirely satisfactory results. Comb foundation made easily and quickly at less than half the cost of buying from the dealers. Price of Press for L. frame sheets, $2.00. Other sizes, 25 cents extra. Price of the Press making the foundation directly on the wired frames, $2.50, any size wanted.

ADRIAN GETAZ,
45Atf KNOXVILLE, TENN.

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We Offer for a Limited Time Only

AT LIBERAL FIGURES

as follows:

300 Thousand Quart Berry-Boxes.
100 Thousand 16 and 24 Quart Berry-Crates.
200 Thousand Sections.
25 Thousand 24-Section No-drip Shipping-Cases.
2 Thousand Dovetailed Bee-Hives.

Write to-day, and get our special prices, on any quantity. Address,

SHEBOYGAN FRUIT-BOX CO., Sheboygan, Wis.

Mention Bee Journal when writing. 47A6t

Some Styles of Honey-Jars

Now is the time to make ready for Thanksgiving and Christmas trade. Honey at this time of year always sells best. Put up your Extracted Honey in one of the attractive Jars illustrated on this page, label it nicely, and you will be surprised at the ease you can sell it and the prices obtainable.

½-lb. Tumblers

PURITY GUARD

Tip Top Jars.

HALF-POUND TUMBLERS

There seems to be an increasing demand for a cheap tumbler to put up a half-pound of honey to retail at 10 cents. We have secured a stock of such tumblers at a price which enables us to offer them at $5.00 per barrel of 32 dozen This is less than 1½c apiece. For less than barrel lots we cannot repack them for less than 25c a dozen; or we will put them up 4 dozen to the case with partitions ready to re-ship when filled, at $1 a case; 10-case lots at 95c.

TIP-TOP HONEY-JARS

This is a new-style jar sealed with rubber ring under rim of a glass top held securely with spring-top fastener. This fastener is applied to a great variety of bottles and jars used for different purposes. We have selected two styles among them all as being the most suitable for honey. The one and two pound square jars may be had with spring top fastening instead of cork at 75c per gross extra. We can furnish in two sizes.

½-pound, 45c per doz.; gross, $4.50.
1-pound, 50c per doz.; gross, $5.

HERSHISER JARS

These jars were designed for use in the honey exhibit at the Pan-American Exposition in Buffalo, and are very neat and attractive. They have cork-lined aluminum caps which seal them tight. They are made in 4 sizes square and 3 sizes round. Write us for complete prices on this style of jars.

NO. 25 JARS

The illustration to the side does not do justice to this jar. It must be seen to be fully appreciated. We have sold this jar for years and in larger quantities than any other. It is really our standard, and the demand for it is unfailing. Packed in re-shipping cases of 2 dozen each. We are now prepared to offer No. 25 jars in partitioned cases of 2 dozen each, ready to reship, when filled, at $1 per case; 10-case lots or over, 95c; 50-case lots at 90c.

MASON FRUIT-JARS

These are very largely used for canning fruit, and are often used for honey as well. As we buy them by the car-load, we can make the following prices at Medina, all put up complete with porcelain-lined caps and rubbers, in cases of one dozen:

Size.	*Doz.*	*6 doz.*	*12 doz.*
Pint	$0.52	$3.00	$5.75
Quart	0.55	3.10	6 00
½-gal.	0.75	4.10	8.00

Triumph Wrench for Mason Caps, 15c each; by mail, 20c. Ball's Waxed Rings, better than rubbers, 5c dozen; postage, 3c.

LABELS

Don't fail to label your bottles and cans of honey. A good label is a profitable advertising instrument. Don't make the mistake of using a poor label. We are properly equipped to turn out the best work in the shortest time at lowest prices. Write for our label catalog showing 50 styles. We can make special labels for large orders.

Hershiser Jar.

No. 25 Jar.

Write Nearest Branch or Agent for Catalog.

Alabama
*Wetumpka .... J. M. Jenkins
Canada
Toronto .... E. Grainger & Co.
California
*Fresno .... Madary Planing Mill
*Los Angeles .... California National Honey Producers' Association
Colorado
Denver .... The L. A. Watkins Mdse. Co.
Fruita .... Fruita Fruit and Produce Ass'n
District of Columbia
Washington .... The A. I. Root Co.
Georgia
Savannah .... Howkins & Rush
124 Liberty St.
Illinois
Chicago .... The A. I. Root Co.
144 East Erie Street.
Indiana
Indianapolis .... Walter S. Pouder
Evansville .... Vickery Bros.
Iowa
Des Moines .... Joseph Nysewander
Kansas
Augusta .... Carl F. Buck

Mississippi
Brazelia .... George A. Hummer
Massachusetts
Boston .... H. H. Jepson. 182 Friend Street
Lyonsville .... W. W. Cary & Son
Maine
Mechanic Falls .... The A. I. Root Co.
Maryland
Baltimore .... Rawlins Implement Co.
Michigan
Bell Branch .... M. H. Hunt & Son
Fremont .... George E. Hilton
Minnesota
St. Paul .... The A. I. Root Co.
1024 Mississippi Street.
Missouri
High Hill .... Jno Nebel & Son Supply Co.
Springfield .... Springfield Seed Co.
St. Louis .... Blanke & Hauk
New Mexico
Carlsbad .... Edward Scoggin
New York
Syracuse .... The A. I. Root Co.
New York City .... The A. I. Root Co.
44 Vesey Street.

Ohio
Columbus Grove .... McAdams Seed Co.
Toledo .... Griggs Bros., 521 Monroe St.
Zanesville .... E. W. Pierce
Cincinnati .... C. H. W. Weber
2146 Central Avenue
Oregon
Portland .... Portland Seed Co.
Pennsylvania
Du Bois .... Prothero & Arnold
Philadelphia .... The A. I. Root Co.
10 Vine Street
Williamsport .... E. E. Pressler
633 Lycoming Street
Texas
Dallas .... Texas Seed and Floral Co.
San Antonio .... Udo Toepperwein
Uvalde .... D. M. Edwards
Utah
Ogden .... The Superior Honey Co.
Virginia
Spottswood .... W. E. Tribbett

* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

AMERICAN
WEEKLY
BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor — CHICAGO, ILL., DECEMBER 6, 1906 — Vol. XLVI—No. 49

Editorial Notes and Comments

Wanted—A Good, Effective Hive

The following letter has been received and read with much interest:

> AMERICAN BEE JOURNAL—
>
> *Gentlemen:*—Your invitation to subscribe is at hand, and I take no bee-journal, although I am not unacquainted with yours. It is as good as any, I guess.
>
> But until some of the bee-papers can furnish the public with a good, effective bee-hive, or a pattern thereof, or instructions how to make such, that an ordinary man of ordinary sense, can make out of pine lumber with hand-saw and hatchet that is superior to the old box-hive, bee-journals are useless. Who ever furnishes it, his fortune is made.
>
> Garland Co., Ark. E. A. FULFORD.

The American Bee Journal desires above all things to be useful, and there is a plainly implied reproach that so far it has remained "useless," and all because it has not furnished instruction for making a hive "with hand-saw and hatchet that is superior to the old box-hive."

As our correspondent is not unacquainted with this Journal, he can hardly have failed to note that it has made an earnest effort to supply all desired information regarding apicultural matters, even to the extent of having a regular department each week, in which each subscriber has the privilege of answers to any questions he may send in. The only reason for the neglect to give the instruction desired by our correspondent, is that no one has heretofore asked for it, and so it was not known that any one wanted it. Now that the want is known, the reproach for the omission shall no longer continue.

Get pine boards 1 inch thick. For the sides of the hive, cut 2 pieces, each 20¼ inches long and 10 inches wide. For the ends, 2 pieces 15 inches long and 9⅜ inches wide. Nail together so that the outside measure of the hive shall be 20¼x17. The pieces for the sides and ends are not of the same width, and are to match at the bottom. That leaves an open space ⅝ inch at the top at each end. To close this space, and also to furnish cleats by which to lift the hive, nail on each outside end a piece 17x1¾ inches.

For a cover, take a board 18 inches long and 17 inches wide, having a cleat nailed on each end. Such wide lumber is now expensive, and the cover may be made of 2 or more narrower pieces, covered with ruberoid roofing, which is now to be had at the lumber yards.

A bottom-board may be 2 or 3 inches longer than the hive, and of the same width, or the hive may be placed on any flat surface. In either case there should be nailed upon the floor at each side, and also at the back end, strips 1 inch wide and ½ inch thick.

Ten frames are needed. For these, rip out of your inch lumber strips ⅜ inch thick. Cut the top-bar 20 inches long, the bottom-bar 17⅝, and the end-bars 8⅜. Nail the top-bar and bottom-bar on the end-bars, making a frame 17⅝x9⅛, outside measure, this being the size of the Langstroth frame.

This will not be so good as a factory-made hive, but it will be a long ways ahead of a box-hive, as it allows each comb to be taken out instead of being a sealed book like the box-hive. Whether our fortune is made hereby remains to be seen.

◆

Capacity of British Standard Frame

D. M. Macdonald says in the British Bee Journal:

> Editor York (page 553) states that the Langstroth frames are 35 percent larger than our standard. I, after allowing for thicker wood and taking internal space (the true test), work it out at rather under 25 percent. Our hives, with 10 or 11 frames, have practically the same breeding space as an 8-frame Langstroth.

Quite right, Scotch friend; the proper way to make comparison is by inside measurement.

◆

Anchoring Hives

To secure hives from being blown over in exposed situations, the Irish Bee Journal gives the following:

> Pass a rope over the roof with two bricks at one end and secured at the other end by a strong stake driven into the ground beside the hive.

◆

The Pampered Drone

Referring to the Hasty-Miller controversy about the drone, page 813, Editor Digges, of the Irish Bee Journal, says Mr. Hasty's views are common enough, but he thinks them groundless, and quotes from the "Irish Bee Guide" the following flowery passage:

> "Here may be observed wise Nature's regulation that gives the battle to the strong, and to the brave the fair. The agile lover; he whose self-restraint has dipped with temperate appetite into the honey vats, and whose quick power of flight, not lessened by emasculating idleness, is trained and strengthened by sufficient exercise, is first to reach the queen, and, in brief ecstasy of that embrace, gives all his vigor to the making of a hardy race; and giving all, he dies."

◆

Again Irish Requeening of Colonies

On page 685, comment was made upon an article in the Irish Bee Journal, written by T. Maguire. To this a reply was made by the editor of that journal, as mentioned on page 929. Now comes the following letter from Mr. Maguire himself:

> EDITOR AMERICAN BEE JOURNAL:—A copy of your paper of Aug. 9, in which you comment on my little article on "Requeening," in the June issue of the Irish Bee Journal, has been sent me by the editor of that paper.
>
> He refers to your comment in the October number of his paper, and gives some authorities in support of my statement that you ask for. Almost every prominent writer on bees that I have read insists on the importance of having young queens, and I think it is now "up to you" to quote those who enlarge upon the virtues of old ones.
>
> Why, in this very issue of your paper, Morley Pettit refers to the subject in similar terms to mine. He says (page 689): ".....

when she comes to the following spring to be marked '2 years,' she may do well, *or she may not.*" (Exactly what I said.) "I believe the wisest plan is to replace her *as soon as possible*," etc. A wiser plan still, perhaps, would have been to replace her the previous 'fall" (as you term it), when young queens were more easily obtained than in spring.

As to your remarks on swarming, and in the old smothering system, you seem to have quite missed the point of my argument. Under that barbarous smothering system, to which I referred, the "top" or first swarm (containing, of course, the old queen) was smothered at the end of the harvest. Only the old skep (containing a young queen), and perhaps a "side" swarm or two, were retained. Each apiary, therefore, contained generally nothing but queens of the "previous year's rearing," when spring came around. Your remarks, consequently, on swarming not changing the age of a queen have no bearing, seeing that the old queens were dispatched every season.

In this country apiaries are small, and apiarists only learning modern methods. Perhaps over 80 percent of the bee-keepers here have not more than 4 colonies. The climate is damp, the summer short, the honey-flow precarious. These facts make bee-keeping somewhat different from what it is in Amerca; but even in that land of huge apiaries, hot summers, and enormous tracts of honey-pasturage, I doubt whether it would not pay better to work generally with queens "of the previous year's rearing," as advocated by nearly all our experienced men.

Bee-keepers here are like brothers. I feel, therefore, glad of an excuse for exchanging remarks with one in far away Chicago—where some of my schoolmates are.

I wish you, and all the fraternity, much prosperity. Yours faithfully,

T. MAGUIRE.

Enniskillen, Ireland, Oct. 16.

We are very glad to get this letter, Mr. Maguire, and for several reasons. One reason is because of the fine quality of good-nature with which it abounds. Another is because t discloses a misunderstanding on your part hat is not so much to be wondered at, but which, when cleared up, will put things in a ifferent light. You say:

> "Almost every prominent writer on bees hat I have read insists on the importance of aving young queens, and I think it is now up to you' to quote those who enlarge upon ne virtues of old ones."

We are more likely to come to an undertanding if your attention is called to the act that the relative value of old and young ueens was not a matter of dispute between s. Please look again at page 685, and you ill see that we did not say a word as to hether you were right or wrong in thinking oung queens better. We did not dispute our view that it was better to replace queens t the end of their first year. What we did uestion was your statement that "the mater is strongly urged in bee-guides and bee-urnals."

As to the authorities quoted in the Irish ee Journal, it can easily be now understood ow both you and Editor Digges counted em as supporting your position, for you idently had in mind the question as to the ferior value of queens too old, and each one the authorities quoted most certainly arued their inferiority. But with a single exption they most emphatically did not urge at a queen should be replaced at the end of r first year. Replacing a queen at the end her *second* year is a different thing from reacing her at the end of her *first* year. Referring to the remarks of Mr. Pettit, page 689, from which we quote, it will be seen that he says that as a rule a queen goes through her *second* season and does well, and that she may do well the *third* season, or she may not. Can that by any possibility be construed into urging that she be replaced at the end of her first year? When you look again at page 685, and see just exactly what we were talking about, there will surely be no further disagreement between us.

Yes, you are quite right that the point of your argument as to removing old queens by the brimstone method was missed. In this country the rule has been to "take up" the heaviest and the lightest colonies; the heaviest because giving the most honey, and the lightest because they would not be likely to go through the winter, and what honey they had might as well be taken. By this plan the doomed queens might be young or they might be old. In your country, it seems, the first swarm is always the victim, and that would always doom the old queen. You might ask whether in dooming the heaviest colonies in this country we did not always doom the first swarm, and to this question we can make no positive reply.

It was good of you to send what you call the "little sketch" as an antidote in a case of "bad humor," but you may rest assured there was no "bad humor" in the case. If there had been, the reading of that sketch, which will appear in a future number, would certainly have been an effective cure, for the one who can read it through without a hearty laugh must be farther gone in bad humor than is ever allowed "in this locality."

Miscellaneous News-Items

Dzierzon is Dead! — An extra leaf in Praktisher Wegweiser has the following announcement:

> LOWKOWITZ (Upper Silesia in Austria), Oct. 26, 1906.—This forenoon, after long confinement to a sick bed, departed this life the revered old bee-master, Dr. John Dzierzon, aged 95 years and 9 months.
>
> The condition of the deceased became so much worse in the past few days that his departure was hourly expected.
>
> PEACE TO HIS ASHES!
>
> Dr. Kuehl and wife have gone to Lowkowitz, in the name of the German, Austrian, and Hungarian *Wanderversammlung* to lay a wreath on the coffin of him who has fallen asleep.

We hope soon to give a biographical sketch of this Prince and Father of German bee-keepers.

◆

Mr. P. R. Hobble, of Dodge City, Kan., called on us last week. He is nearly 70 years old, and from 17 colonies, spring count, he secured about a ton of comb honey, and increased his apiary to 30 colonies.

◆

The Apiary of Ellis S. Stenabaugh, shown on the front page, was written about by Mr. S. as follows, on Aug. 22:

> I have kept bees for the last 20 years, but until about 12 years ago I knew but very little about them. About that time I was employed by a man who had 40 or 50 colonies. I helped him in his apiary, and with all his bee-work, in fact, and so contracted the fever. So after helping him 8 years I bought his stock, which, with my own, made 56 colonies, and I moved them to their present location about April 1, 1901. When I looked through them on May 1 of the following year, I wished they were where they had come from, as I found only 27 that I considered at all good. Some were queenless, and several had foul brood, but that year I obtained 2000 pounds of honey (comb and extracted), and that is a very good yield for this locality.
>
> The winter of 1903–04 was very cold, and in the spring of 1904 there were but 14 colonies alive. I always let them swarm once, and try to cut queen-cells, but that summer they went ahead of me, increasing to 34 colonies, besides obtaining 1200 pounds of honey.
>
> The spring of 1905 I had 29 colonies, which increased to 68, and produced about 2000 pounds of honey.
>
> Last spring I sold a part of my stock, and at present have 69 colonies; but it is a very poor year for honey, and they are doing scarcely anything.
>
> I have a little foul brood, but in the fall I always "take up" any that show any signs of the disease.
>
> The photograph shows, besides myself, my 10-year-old son Charles, who hived a swarm alone when I was away one day.
>
> ELLIS S. STENABAUGH.

◆

The Apiary of H. S. Little is shown on the first page this week. He wrote as follows concerning it, Sept. 29:

> I am an amateur bee-keeper, as I started July, 1905, with one colony. I wintered 4 colonies—3 in box-hives, which proved worthless and were transferred. I have at present 11 colonies in my "Brook View Apiary." The bees are mostly hybrids, but I have 4 pure Italian queens and expect to rear enough queens next spring to introduce to the hybrid colonies.
>
> The hives are the 8-frame factory-made kind, and I use 4½x1½ inch plain sections, as my customers think they are plumper and nicer than the bee-way sections.
>
> I expect to winter the bees on the summer stands with a chaff super, as they have a sheltered location.
>
> I exhibited my honey at the Agricultural Fair, and took the prize.
>
> I read 3 bee-papers and have a text-book, and all have paid me more than they cost.
>
> H. S. LITTLE.

◆

In Old San Antonio.—Last week we tried to tell something of the trip from Chicago to San Antonio in the special car-load of bee-keepers. On the way some one asked us if the Texas bee keepers expected to meet the delegation from the North. We replied, "Sure! They'll have a Mexican brass band at the railroad station, and receive us all in regular Fourth of July style."

But when our car pulled into San Antonio everything was as quiet as a cemetery at midnight, and there wasn't a sign of a Southern bee-keeper to be seen anywhere. We had supposed that they knew a lot of us Northerners were coming, but it looked as if they "done forgot" all about it. We learned afterward, however, that they thought we were coming in at another station than where we arrived, and so they missed us.

The Grand Central Hotel is only about two blocks from the International & Great Northern station, so it was easily found. At first the hotel accommodations and meals were anything but satisfactory, but we learned from the proprietress that she had just passed through a deep affliction in the recent loss of a son, who had been sick for 5 weeks. It was a new hotel, and she had not been able to get it properly furnished and in running order before the bee-keepers swooped down on her. When she saw her unpreparedness, a week or so before the convention date, she felt like declining to try to entertain the bee-keepers; but, then, she thought, it would not be right to break her agreement and leave the bee-keepers adrift, so she did the best she could with the unfavorable circumstances under which she labored. However, in a day or two after the bee-keepers arrived, things began to improve around the hotel, so that it was a pleasant place to stop.

Shortly after arriving at the hotel, at about 11 a.m. on Nov. 8, the Southern bee-keepers began to appear and greet their Northern visitors and others. There was the hustling Toepperwein, who had made all the arrangements for the convention; Louis H. Scholl and wife, the former well known to our readers; O. P. Hyde and charming daughter; J. E. Chambers, who, with his interesting helpers, were pictured in these columns lately; W. O. Victor, President of the Texas Association; C. C. Parsons and son, late of Alabama, but now of Florida; W. H. Laws, the queen-breeder, and little daughter; E. J. and Will Atchley, the latter also accompanied by his wife. And many others soon appeared to meet and greet the rapidly arriving bee-keepers, who began to hum around and "buzz each other" somewhat in imitation of their little friends at home—the bees.

The afternoon of Nov. 8 was spent by many of the visitors at the International Fair, then being held in San Antonio. This is a great event for that part of the country. And the exhibits were really numberless and most excellent. Of course, what interested us most was the large and very fine apiarian exhibit made by Mr. Toepperwein and others. It was really a magnificent display. We had hoped to have some pictures of it, but so far have failed to get them.

At about 7 o'clock in the evening the bee-keepers began to gather in the large Market Hall for the first session of the convention, the proceedings of which will soon be issued in full in pamphlet form, and then afterward we expect to publish them in the American Bee Journal.

We had hoped to tell this week of the "warm" Mexican supper that was given the bee-keepers, but have not room to do so. But next week we will try to describe it, if possible, and if our pencil does not melt and paper burn when attempting to write down the "hot stuff" that went down over a hundred throats that memorable evening.

"Do It Now."

Here's a motto for us all:
"Do it now."
Should the work be great or small,
"Do it now."
Time is money you can't borrow,
So to banish much of sorrow
Don't put off until to-morrow—
"Do it now."
—*Selected.*

Contributed Articles

T-Super the Great Comb-Honey Super

BY DR. C. C. MILLER.

Some bee-keepers are quietly using the T-super in preference to all others, and because they say little or nothing about it their number is probably a good deal larger than generally supposed. One of them is Mr. Frank H. Drexel of Colorado, who has sent me a letter of such general interest that by his permission I herewith give it to the public:

LETTER FROM MR. DREXEL.

DEAR DR. MILLER:—Somewhere back in the 90's I asked you some questions about T-supers, and you remarked, after having answered them, that you hoped I would tell about how I liked T-supers and why I used them in preference to other kinds.

Now, I fairly itched at times to say what I thought about the advantages of T-supers, and to give vent to my indignation at the manner in which the supply-manufacturers have been forcing out of use such a good thing. Indeed, only recently, when Mr. Greiner let loose his batteries against the much-abused T-super, I just felt as if I had a call to rush into print, if I should be given space, and defend the super of my choice to the best of my ability.

But whenever I thought the matter over calmly, I always came to the conclusion that it wasn't worth while. I would say to myself: "What's the use?" And I say the same thing to you now.

You have answered nearly all, if not all, the objections that have been advanced against this particular form of super. You have made it plain to those who wish to see, that the super has merits to stand on, and that it would be in use to a large extent today, if certain interests had not decided against it. All the various points you made, which would hold equally good in case of other fixtures as well, regarding the influence of journals and of catalogs carefully worded, on the minds of beginners, are simply too manifestly correct to be gainsaid.

I haven't the desire to pester any one with my ideas in connection with any particular fixture or system, and I am convinced that no one cares greatly what I am using, or how I use it, unless it would mean dollars to them to know. As I never considered the use of T-supers worth many dollars per year, as compared with the use of any other good super to which one has become accustomed, I have simply held my peace.

But to you I will say that I am getting rid of all my section-holder supers as fast as I can, and I have only about 100 left.

Editors and business managers may sing the praises of section-holders until they grow weary of it—but it is all lost on me. I have tried them on a more or less extensive scale, and they are not as good, to my way of thinking, as are the T-supers.

If section-holders did not shrink; *if* they did not warp; *if* the end-bars always remained rigid; *if* they did not require cleaning; and *if* they were as easily filled in spring and emptied in the fall as they are represented to be—then I believe they would be nearly as good as T-tins.

You know, section-holders cost more than T-tins, and they do not last as long. They frequently fail to be accurate the second year of their life. The cleaning of a section-holder is a small job. But the cleaning of 6,000 is a job to be dreaded. I don't know how much longer it takes to clean 6,000 section-holders than it takes to clean 3,000 T-tins, but I do know that the person trying the experiment would never be in doubt as to which he would prefer to do in the future.

Of course, I know that some bee-men do not take any stock in such arguments, for they do not clean section-holders. They clean supers. All right! I have no quarrel with them. The only difference between that class and myself is that they slap-bang! and I do not, and do not want to.

The diamond-shaped section usually comes to me out of the section-holder super. According to the picture of a section-holder this should be impossible. According to Editor Root, I have things mixed concerning this. But I guess that *you* know that diamond-shaped sections are not the fault of the T-super—but of poorly-made ones. Whereas a section-holder maye be made ever so good, in time and by careless handling it can turn out sections so beautifully diamond-shaped that they will hardly stand being squared, however warm and soft they may be. This happens very frequently through hurry. The end-bars should stand perpendicular, and the bottom-bar should be spaced equally distant from both sides of the super. Some are made so that they simply have to be that way, but they do not remain so.

Our T-tins on the other hand, do not warp, nor shrink, nor twist. They may be made to bend. Especially if one is given to slap-bang work, but I have no trouble of that kind.

There is so little to get out of order in a T-super that I admire your choice, Doctor, and I am glad that I followed you.

You and I and other users of T-supers know that we have a good thing, but we may as well keep silent about it, so far as making any impression on dealers is concerned, for they do not wish to know about T-supers. As for me, I am convinced that they do not favor the idea of spreading the light of the T-super, either—let the motives be what they may—or you would not have witnessed the change in the way this super has been treated in the annual catalogs. From a *beautiful cut* far removed from the regular goods, with wording to suit, the only thing remaining to justify the claim that it has not been dropped, is the mention that customers may have their choice of Dovetailed, T, etc., at the same price.

There, now, Doctor, *you* have my deas on the subject, although I have by no means said everything there is to be said in favor of the T-super. One should work with both kinds on a fairly large scale to be able to draw proper conclusions. The T-super has ts faults, to-wit: That sections can not readily be moved about if that should become necessary; a T-super does not work nearly as well over a box-hive as does a section-holder super, for the lats are a distinct protection in that ase. When carelessly handled, the T-super has a way of dumping sections, ins and all, in a heap. But after havng girls and boys, men and women, o help me for 12 years, I have had bout a half-dozen supers act in that way, and only *one* that I can remember which was filled with honey.

The T-super makes it necessary to se little strips of wood or tin between he sections on top to fill the spaces made by the T-tins below. This is ussy work, and really isn't pleasant. Don't you think so, Doctor? But you will agree with me, no doubt, that the work of putting those strips in is not early so great as some people would ke to make it out to be. Some people can not put together section-holder supers without making a great deal of uss about it, and so it is with T-supers. Every move necessary is magnified until one would suppose that it took 10 precious minutes to load one T-super. How much can you beat that, Doctor?

Now I am not extra swift, but by actual time, I have put top and bottom arters in 24 sections, set them into the T-super, put in separators and follower and springs, keyed them all up solid, and inserted the strips, in 6 minutes. I don't know that I can keep that up all day, but I will gamble that can do them by the hundred in 8 inutes. If the section-holder super dmits of more rapid manipulation than is, the difference will probably be due the strips.

There are those who throw sections to supers regardless of regularity, me with dovetails up and some with ovetails down. The separators stick here and stick down there, and the d-bars lean this way and that, leaving gaps and cracks all over. But I not urge the T-super on such people. If one is going to call that sort work "good enough," better for him to keep shy of the T super, which, although simplicity iself, requires just a little care in packing. Don't you think so?

I have written you a much longer letter than I had any idea of doing when I began, but it is so easy to do that when one is really in earnest.

Before closing, I wish to tell you that I have often wondered how you perform the operation of slipping the T-tin under the row of sections when you are loading a super. I used to just put down the 3 tins and put the sections between them, which gets to be easy enough after you practice it a while; but, lately, I kept thinking about this slipping-under scheme which you have so frequently referred to, and so I tried an idea which works well. I wonder if it is the same thing that you have been practicing:

On a flat board the same size of the super, I nail three little strips nearly as long as the inside width of the super. These strips are spaced so that they will come within 1-4 inch of the staples when the super is placed squarely on the board. This, when putting in a row of sections, will have the effect of raising them just high enough on the side where the T-tin belongs to slip it easily under the 6 sections without having to touch them at all with the hand. When all the sections and tins are in, raise the super, and all drop into place, and the whole thing is done. Very simple, only I hadn't thought of it before. I never could understand how you raised 6 sections so as to slip the tin under as quickly and easily as you said you could.

If you have a better way, I would thank you for the information.

Of course, I am not expecting a personal reply—but a line under questions and answers in the American Bee Journal will suffice.

Frank H. Drexel.

Replying to the question as to the little strips used to fill in the spaces between the tops of sections, there is no doubt about its being fussy work, even when one has become used to it, requring no little strength of fingers. At first I did not use these strips, but while I produced crops that brought top prices, there was a chance for some of the sections to be a little out of square, and the bees did not fail to fill with glue the spaces. So I prefer the fussing with the little sticks with the perfect squareness of all the sections.

I think you are a little hard on the manufacturers, Mr. Drexel, for I hardly see what interest they could have in sinking the T-super, and yet I must confess it is a mystery to me why they have done so. May it not be that they are themselves deceived as to real values? When so intelligent and honest a man as Mr. F. Greiner can be so deceived—looking at it from your standpoint and mine—as to pronounce the T-super the worst ever, what can you expect of manufacturers?

You ask how much less than 10 minutes it takes me to load a T-super. I have just come from the shop, where I had my assistant fill up a super while I stood by with watch in hand. When the minute and second hand came to the right place, I called "Go." She placed the first row of sections, put the T-tin under, then the 3 other rows, put in the separators, fussed the little sticks in place on top, put in the follower, then wedged it up with the super-spring, all ready to put on the hive, and when she called "Done," just 1 minute 30 seconds had elapsed.

That doesn't answer your question squarely, for you asked how long it would take *me*. I don't know; that's Miss Wilson's work always, and she is no doubt an expert at it. I didn't try it, for I shall no doubt feel just as comfortable not to know how much longer it would take me. From the way her hands flew, I think she did her best. But it is only fair to say that in actual practice there is a chance for a little saving of time over the foregoing, for she never makes a separate job of filling the supers. As fast as she puts the foundation in a section, she places the section in the super, and it takes just a little less time to put the section in the super than it would to set it loosely on a board.

After I had written the foregoing I noticed that you had timed yourself, and included also the work of putting in the starters. So back we went to the shop, and she did the whole of the work, putting in top and bottom-starters, and getting the super ready to put on the hive. That took her 4 minutes 17 seconds. Very likely she could keep that up all day, for although she hurried you will readily understand that she would not make as rapid work in foundation after not having touched such work for several months as she would after "getting her hand in." I wonder whether such work as putting in foundation is not better suited to a woman's fingers than a man's, anyway?

I'm not sure whether I agree with you that slam-bang people will do better with some other super, but possibly you are right. In any case, I should hardly urge slam-bang people to produce section honey—or perhaps any other kind.

Your arrangement for filling sections in super is practically the same as the super-filler in use here, described in "Forty Years Among the Bees," on page 148, illustrated on page 189, and given to the public years before the book was published.

I notice that in filling a super you mention putting in the little top sticks the last thing. If you do the work in that order, I'm pretty sure you'll gain time by putting them in before the follower. Harder to squeeze them in after everything is snug.

After reading Mr. Drexel's letter, it occurred to me that some might ask, "How competent is the witness? for it makes a difference whether he is a beginner with 3 colonies that he has run with T-supers, or has had a hundred of them for several years." So I sent him a card, and received the following reply, after which I submit the case to the jury:

Second Letter from Mr. Drexel.

Dear Dr. Miller:—I have your card acknowledging receipt of my letter, and I am indeed glad to know that it has done you good. Had I thought that you would wish to have it published, I might have added a few more reasons why I like the T-super. I know that *you* did not need to be told the good points, and no doubt you know more of them than I do.

But it seems to me that if this matter is again mentioned in the journals, and any notice of it taken, it will be looked upon as just another case of "old fogy" siding in with another "old fogy." However, do as you think best.

Now, to answer your question, I shall take up a little more of your time than is really necessary, but I want to tell you a few things as I go along, which will bring out a good point of the T-super.

When I first thought of taking up apiculture, some 13 or 14 years ago, I read up on the subject a little before buying any supplies, and it was then that I decided to use the T-super. The reason was this: Mr. Root said, in "A B C of Bee-Culture," that Dr. Miller was a good man to follow. So I followed. Of course I made mental comparisons as to the virtues of the different styles of supers, and I believe that I liked the T-super idea best; but after all, I feel quite sure that had I seen the catalog only, and not the "A B C of Bee-Culture," then I would have decided upon the section-holder super.

My first 200 supers were made at a local mill, and were not very good in point of accuracy, which, in a T-super, is quite important. So, later on, when I bought some factory-made hives, I wanted to buy along with them new supers of the T variety. But not much! Section-holder supers were "regular" then as now, and unless I wished to order them direct from the factory as a "special order," I would have to take section-holder supers with my hives. See the point?

Now the local freight from the East to where I live is no small object, and so I finally decided to take what I could get from the agents here. And to make the matter still worse for me, the section-holders were of the new kind—for 1 1-2-inch no-bee-way sections. Well, I had now 160 of these new affairs, and, so far as the sections were concerned, I liked them very well. But I did not like the holders. So I tried the 1 1-2-inch sections in my T-supers, and they worked like a charm with separators made to suit. So I decided to get a lot of separators for my T-supers and plain sections. And right here is what I wish to call your attention to.

The T-super is the most flexible super I know of. Any width section will work in it and you need not have a barnful of section-holders of different widths on hand. When I say "a barnful," I exaggerate, of course, but it emphasizes what I really mean. Just take the section-holders out of 160 supers (8-frame) and see what an awful pile you've got.

After some time I found it did not pay me to continue using the plain sections, and I had to get rid of those section-holders as best I could, but my old T-supers were just as good for one kind as for another, and so I ordered several hundred more from the factory. These were good, and I have ordered more from time to time, until now I have 800 8-frame T-supers in use.

But I also found myself adding section-holder supers to my stock. Not because I wanted them, but because they were "regular." New hives with supers always meant the section-holder kind. Also, by buying up bees, I became the owner of still more of these supers, until I had 500 of them on hand. So, although I certainly cannot lay claim to being an extensive bee-keeper, as we understand it out here, still I think I am entitled to pass upon the merits of the two kinds of supers from actual experience.

This year I have had in use 800 T-supers and 300 section-holder supers, 200 of the latter being the 10-frame size. Each spring I find it necessary to go over these section-holders and either strengthen them with an additional nail or so, or by simply driving the old nails up. Mr. Gill says they are too light, as made by the factories. I think so, too.

But my T-tins need no fixing. All I've got can be cleaned easily in a day, and packed away in a couple of small boxes the size of 8-frame hives.

I am working with the two kinds of supers now, taking out the last of the most be-propolized sections I have ever seen, and, as for me, give me the T-supers—all things considered—all the time.

And, then, too, if there is any virtue in having sections come close down to the brood-nest, the T-super puts them there when others do not. The first honey comes off as clean and white in T-supers as in any other. Later on, I believe the section-holder protects the bottoms of sections more perfectly, but not enough to make it an object.

So there, then, I've answered your questions in a roundabout away, and hope you will pardon me for being long-winded.

As a "parting shot" at those who who claim there is no demand for T-supers, I will tell you that my friends around here much prefer my style of super to those they are obliged to take from the store; but hesitate to adopt them because of the expense in making the change, and the difficulty in getting new T-supers from time to time as they may want them. Anything is better than a mixture, and so they create no demand for T-supers. *Therefore,* "No one wants them but a few old fossils," say the manufacturers. And if not *old* fossils, then fossils anyway.

FRANK H. DREXEL.

P. S.—I have been operating about 600 colonies for 5 years, and ship honey in large quantities, and mostly out of T-supers. That should be a fair test as to the kind of work they will do on a large scale. Crawford, Colo.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's handbook of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, $1.00; or with the American Bee Journal one year—both for $1.75. Address all orders to this office.

Home Trade for Honey, Etc.

BY GRANT STANLEY.

It will certainly pay well to put considerable thought and effort in the matter of building up a strictly home trade for our product. In fact, I am led to believe it is one of the most important questions with which the bee-keeper has to deal—the disposing of his surplus product at the highest price obtainable.

The shipping of honey to commission men for disposition is, in many cases, far from satisfactory. Such honey requires much better packing than when consigned to the local markets; the commission men must have their percentage for handling it; the freight on the shipment must be paid; the risk of breakage in transit and fluctuating markets all come up for consideration, and as can be expected all this extra expense is wrung from the pockets of the producer.

It is all wrong for a producer of a commodity to sell his product at a price scarcely above the cost of producing. If there is any one who should be well remunerated for his efforts it is the producer. The bee-keeper has invested his money in bees, hives and bee-appliances, and his success as a bee-keeper, and producer of a good, high-grade article, is the result of years of experience and study, and he is entitled to every dollar there is in it.

We should remember that the matter of quality is as important a feature with our home trade as when shipped to distant markets. If we are very careful to cater to the wants of the consumer, we will be able to dispose of immense quantities of honey at home. It is certainly a pleasant experience to have people within a radius of twenty or thirty miles call at your door and purchase honey; and if quality has been given the consideration it warrants, the sales will increase to such an extent that the demand will soon be far greater than the supply. By all means look into the matter of a strictly home trade.

Let us remember that attractiveness and neat appearance are placed in an article for the sole purpose of soliciting patronage, else why bother with it? While quality is the all-essential the consumer seeks in the purchase of an article. Now we readily see that the producer places attractiveness in the article to assist in the sale, and the consumer, feeling assured the quality corresponds with the appearance, makes the purchase, as he has no use for attractiveness; so if we fail to place quality in the article we are guilty of deception and fraud. To make quality the first consideration in the production of an article, and offer it for sale in the most attractive manner possible, is the only way in which the highest results can be reached.

PREVENTING FOUL BROOD.

So much is being said about curing foul brood that it looks as if the matter of prevention is not given a single thought. Of course, when bees have contracted the disease there is nothing left to do but to apply a cure; but as "an ounce of prevention is worth a pound of cure," why not turn some attention to the matter of preventing this disease? If it is not possible to destroy the underlying causes, would it not be a wise policy so to breed and protect our bees that they may in time become immune from it, the same as many diseases which man and cattle are heir to when under subjection? Preventive measures must be applied before any disease can be eradicated.

Nisbet, Pa.

Water for Bees—Other Subjects

BY A. J. COOK.

Every well-informed bee-keeper knows that bees need water. Has he not seen them at the watering-trough or at the brookside, thickly dotting the water's edge as they sip the refreshing liquid? Every wise bee-keeper will see to it that water is in close proximity to his apiary, and will so arrange that the bees may quaff to their fill, with no danger of loss of life. In case there is no natural supply, pans of water with chips placed in them or other provision for their safety, should be near the hives.

A good friend, commenting upon my articles recently, rather made light of my suggestion that the water was taken for the immediate use of the bees. Of course, I may be wrong, but I firmly believe that I was right.

Water Quickly Absorbed.

We have all noticed that we may eat a very full meal, and then drink a full glass of water with no essential disturbance. A very little more solid food or a glass of milk would bring no little uneasiness. This fact is easily explained. The water is almost at once absorbed from the stomach into the blood while the solid food or milk must first be digested, and then will be absorbed. Osmosis—the technical term for absorption—is always more rapid under pressure. We can see then, that with a full stomach we have just the conditions for very rapid absorption. We might reason from this fact of the rapid absorption of water, that it would take place in the case of the bee.

We have another proof of the rapidity of absorption in our own case when we drink at a time of great thirst. Of course, the thirst will not be quenched until the water reaches the blood, and yet, how quickly after we drink the refreshing beverage has the thirst entirely disappeared. We see the same thing in watering our horses. When they are very thirsty, if we let them drink to their fill, they will over-drink, often greatly to their hurt. If, on the other hand, we give them a pail of water and wait only a very few minutes, we find they drink no more; the water had passed to their blood and their thirst was satisfied.

In case of the bees, we have another reason for believing that this water is used at once. We never find it stored in the hive. True, it may be that the bees carry this to the hive and at once give it to the other bees, but in this case I suppose it is used at once by the nurse-bees and is never stored. Is it not probable, then, that the water is taken just as we take it when we are sure that we can get it whenever needed, only as the bees need it, and that as in our own case, it is at once absorbed and used?

It is well known that a goodly proportion of the body, even the most solid portion, is water, while in the blood and secretions, the water forms a much greater part. Circulation, of course, depends largely upon a good supply of water, but circulation is all important, if the body is to be kept in normal condition. We can understand, then, how water is so necessary a part of our food, and how health, no less than comfort, demands a sufficiency at all times. We can also understand why thirst is so terribly disturbing, and how the one, famished for want of water, suffers so terribly from the want. This should make us all the more careful that our bees and all our large domestic animals should have an ever-waiting supply of this life-giving aliment.

Bees and Fruit.

I am asked if I will give my reasons for thinking that bees never injure sound grapes. Although I have spoken so frequently through the American Bee Journal on this subject, I will briefly recapitulate my reasons for this opinion.

If we will watch and note that the bees are working in full force on the grapes or other fruit, and then select a cluster of grapes, remove all that are not perfectly sound, and hang the cluster where the bees may gain ready access to it, we will find that they leave the grapes entirely unmolested. If now we prick half of these grapes with a pin or needle, so that the juice exudes, and mark those punctured by tying a thread about the stem, we will find that while the bees will suck the pierced grapes entirely dry, they will leave all the others entirely unmolested.

We may even make a more crucial test. Shut the bees in the hive, ventilating them so they will not suffer, and take all food away from them. When their fasting has reached the danger limit, take a bunch of grapes, all of which are sound, and puncture and mark half of them as before. Now place this cluster in the hive, and we will find that only the punctured grapes will be sucked free of their juice. It is true that if wasp, bird or over-ripeness cause the juice to exude ever so little, then the bees will at once come to save the wasting liquid. I have observed that when the grapes get very ripe, this escape of juice is not uncommon, and it often explains how it is that the bees may come in full force, and seem to attack the grapes without provocation.

I would not say that bees could not puncture grapes and other fruit. I have seen them cut wood with their strong jaws in a way that makes it seem to me possible that they might, if they only knew, cut into sound fruit; but it is not their way of doing. They only seek out the nectar when it is exposed, so that the odor may attract them. I have no idea that the bees ever search out sweets except as exposure gives them hint of their presence.

Improvement of Bees.

Mr. J. H. Reed, of California, gave a very able address the other day before the Claremont Pomological Club. He said that, in Florida, their delicious fruit comes from improvement of seedlings. As we all know, seedlings are more vigorous than are the other varieties. They also bear much better. He suggested that it might be well to try to improve our seedlings rather than to depend entirely upon the improved varieties.

If this be true, then does it not give the bee-keeper a hint? May it not be better for him to improve the bees we have rather than to send away for improved breeds? We all know what Burbank has done in improving by selection various of our fruits and vegetables. Will not some future Burbank do as much toward improving our bees and other domestic animals?

Claremont. Calif.

T-Supers—Merits and Demerits

BY J. C. ARMSTRONG.

The merits and demerits of T-supers are up for discussion yet. Dr. Miller and I had a turn on it, and now F. Greiner comes in to compare the T-super with wide-frame supers, and rules the T-super out. I suppose Dr. Miller knows what Mr. Greiner's wide-frame supers are, and Mr. Greiner knows what the Doctor's T-supers are, and so they understand each other. But I don't know whether I know what the wide frames are or not; but if they are at all that I think they are, then save me from them. It has been so long since I had them that I don't know whether I can describe them or not.

If I recollect, the frames were the width of the sections and the length to hold 4, with standards at the ends (for the want of a better name) the width and height of the section. The sections were set in these and the bees glued them fast at the bottom and ends. I never put them on the hives but once, and they have long since gone to kindling-wood. If these are not his wide-frame supers, I don't know what he means.

The way he talks about T-Supers shows that he doesn't know anything about those I use. It is not my invention, but was invented by a practical bee-keeper. The very faults he finds in Dr. Miller's, mine are clear of. He first saw the T-super in Virginia, and after 2 years discarded it. I discarded my wide frames before the first year was out. He discarded them because of the pollen—it was impossible to remove the sections from them. For the same reason I discarded the wide frame.

He says a T-super might be constructed so as to remove difficulties by "keying up the sections on all four sides." Mine are keyed up on but one side.

He says, "Sections do not fold squarely, and when placed in a super one corner will bob up, and there is no way of keeping them down." No way that he knows, of course. I have a way. "Springs on sides will not do it." I have no springs in mine.

"Wedges will not do it." I have no wedges for that purpose, either. "A screw, or rather 5 screws, might do it." I have no screws. "These naughty sections give me no trouble with my wide frame." Neither do mine.

"The most serious drawback to the T-super lies in the fact, that it must be handled very carefully before being placed on the hive, or it will tumble to pieces." I have no such trouble with mine. I put them together before I put them on the hive. Then I can take my arms full and drop them down any way, and they will not come apart.

"The sections have a way of catching on the tins at the bottom." That is what the tins are for. "The wooden strips between the tops of the sections require a world of patience to replace them when hurrying the work." I have no wooden strips to mine.

"Dr. Miller's bees have a naughty way of crowding in propolis between the top bars and tops of the sections, which fact can not be denied." I do deny it in mine, as I have T-tins at the top as well as as at the bottom.

So there you are.

I received a leter a few days ago from E. S. Armstrong, of Colorado. The correspondence between Dr. Miller and myself in the American Bee Journal stirred him up. He says he has greatly improved his T-super since I got mine from him (some 20 years ago). He still uses the T-tins top and bottom, and the button on the side. He is coming up this way this fall, when he gets rid of his honey, and he is going to bring both Dr. Miller and me a super, and if we don't say it is the best thing we ever saw, he will miss his guess. He expects to have about 700 cases of honey.

Marshall Co., Iowa.

Increase or Prevention of Increase—Which?

BY C. W. DAYTON.

Mr. Grant Stanley, on page 784, refers to my method of treating natural swarms. As Mr. Stanley seems to understand it, it would be a method for *increase* by hiving swarms. About 2 years ago there was a general call for a method for the *prevention* of increase. All the methods aim to prevent the issuance of swarms, unless we except the Alexander, and that, in reality, is a method of swarm control *by increase*. My method of hiving swarms, either singly or numerically, has never been given.

Some time ago, Mrs. Wilbur Frey, of Michigan, asked for a plan "to keep the apiary together without increase," or words to that effect. That is a very practical question at the present time, and these few words are suggestive of a great deal more than they imply. They suggest that the methods which have been masquerading under prominent headlines and glaring advertisements are lacking in practical utility. They invariably call for large expenditure for fixtures, or additional labor. One item of labor is the capture of queens out of very populous colonies. We may as well be a glass-blower as to be roasted in the open air.

"Increase," or the "breaking up" of the apiary, is one and the same thing. The cause of it all is swarms. Prevent swarms and you prevent both. Taking the working bees out from under surplus supers is not the consummation of it.

The above "talk" sounds considerably mixed, doesn't it, while I uphold a method that favors swarming? Well, it is because you have not distinguished that there is a difference between hiving a swarm in a new location, or in a new hive, and returning the bees to their old hive, but in a new or changed condition of mind. To swarm is to issue from the hive, but to permit any degree of increase is to intensify the former condition of mind. The change in their minds makes them desire the hives or conditions existent before they swarmed. About the time we begin to think the hives are about the right fullness to store and ripen honey to the best advantage, the bees take a notion into their minds that there are enough bees to establish another colony and farther replenishment of the earth. It is that part of the swarming act that is included in the law of creation. Not of mere instinct or environment. Yet, one could not prosper without the aid of the others.

There are three principal natural requirements for swarming, namely: An old queen (not necessarily a failing queen); a populous colony; and a good supply of honey in the flowers. Of course, there are many other minor causes, but these come about by more or less mismanagement, and, therefore, are artificial. The only one of these three principal causes that can be removed is the queen. How to do this in the easiest and most satisfactory way is all that there is to be figured out. Let the swarms bring the queens out. Then pick the queen out by hand, or else drive the bees through a sheet of perforated zinc. Then the bees will be likely to decide that the queen has taken a pint of bees and "gone to the woods," leaving them behind. Then they will be satisfied to return to the old domicile and resume their former occupations. The old hive is the only "ground" there is to work on, and the bees must be kept in it or there will be no means to work with. No amount of dodging will assist us over or under the magnitudinous obstacle. Off-hand guess-work counts in the wrong direction. The line of influencing particularities is long and varying. Few realize the fact that it is the surplus of bees in the hive that gets us our surplus of honey.

As for piling up the hive-bodies, one on top of another, supplied with empty combs or comb-foundation, to separate swarms, as described on page 784, I would say that the plan is what Mr. Getaz calls "tommy-rot," and Mr. Hasty, "dope." There are a good many persons who have kept bees for 25 years, and to the extent of 100 colonies or more, and still know very little about bees. They get vague ideas to accumulating in their heads, and that keeps everything else out. They do not want a bee-paper because its teachings run counter to their notions, and they do not believe what is in the journals because it does not agree with their vague ideas. Any swarm will stay in a box without combs, foundation or frames far sooner than with all these supplied. The main reason bees do not fight during a honey-flow is because they are scented with new honey, consequently they would be as one swarm in a short time. The honey scent does not deter them from sorting out the queens, however. They would prefer one of the queens—the most amiable or queenlike. I could not say exactly for what reason. The bees will ball and sting any other, and in three cases out of four not any of the queens would remain alive. Nearly all queen-breeders will tell you that when they put a dozen or more virgin queens in nursery or retention cages, and put them in a colony to be cared for by the bees, that the bees will cluster about one or two and neglect all the rest. The plain statement of this fact can be found on page 25 of Alley's Queen-Rearing, and in W. H. Law's article on Baby Nuclei, in the Bee-Keepers' Review in an early issue of 1905. What applies to virgins will apply in the case of fertilized queens in instances as above designated.

Since the above was written I saw Mr. Laws' statement on page 829, which corroborates my statement relative to fertilized queens. It is nearly a complete verification of my statement which Dr. Miller quoted in a "stray straw" in Gleanings for July 1, 1906, "that the size of the first swarm is varied a great deal by the amount of reverence the bees possess for the old queen." It also applies to swarms having virgin queens. I could not mention better authority on this question than Mr. Laws. With the correctness of that statement the rest of my assertion is nearly, if not quite, self-evident. I would not spend so much argument upon this matter, but in my opinion it contains the key to unlock the whole system of swarm management—changing swarming from a "bane" into an enjoyable and profitable operation. I have used the method for the past 10 or 12 years, and 2 years with 300 colonies, and with days when there were constantly from one to 3 swarms in the air. I was interrupted but little from other work of the apiary, because the bees do nearly all the labor that I used to do by hand manipulation in former managements.

As for bee-keepers in general, there is not one in ten that knows what a natural swarm is. Half of the swarms which issue, if put in a box with their queen, and no other inducement to cause them to stay, will leave the queen and return to the old hive. That shows where the bees ought to go and wh they will work best. It is as impossible to make a proper dispositioned swarm of every cluster of bees as to make an artificial kernel of corn that will sprout and grow.

Chatsworth, Calif.

Convention
Proceedings

The San Antonio Bee-Inspectors' Meeting

The meeting of bee-inspectors called at San Antonio, Tex., for November 12, 1906, by the committee consisting of N. E. France, W. Z. Hutchinson and Dr. E. F. Phillips, has come and gone. The attendance of about 50 persons represented the whole country. No one who attended thought the time ill spent. On the contrary, everyone there felt at the close of the afternoon session that it was a day most profitably passed; in fact, many expressed themselves that it was the best bee-meeting at which it had ever been their privilege to be present.

Dr. Phillips, of the Bureau of Entomology in the Department of Agriculture, Washington, D. C., called the meeting to order, and in his opening remarks gave the history of European foul brood in this country, and also gave a synopsis of the bee-disease work under consideration of the Bureau of Entomology. He then called upon Dr. G. F. White, of the Department of Agriculture, who gave an exhaustive description of the methods of working out disease germs. Beginning at the start he so carefully and fully explained his methods of work that everyone felt that he thoroughly understood every detail in the investigation.

Dr. White said in part, "If your cattle were being poisoned in the pasture and your neighbor's cattle were not, you would make a careful survey of your neighbor's farm and see what plants were growing in his pasture. Then you would make an examination of your own farm and would subtract the plants found in your neighbor's pasture from those found in yours, and those left in your own lot you would suspect as being the ones causing the poisoning. It is so with the investigation of a disease. A germ is a plant, and we study the flora of the healthy apiary and also of the diseased apiary and by this process of elimination and by the examination of a great many specimens we arrive at the cause of the disease."

The European foul brood is caused by *Bacillus alvei* described by Cheyne and published in 1885. The cause of American foul brood is found to be a germ hitherto undescribed, but called by Dr. White *Bacillus larvae*. To isolate this germ Dr. White used a medium the foundation of which was a bouillon made from the larvæ of the bees. No one else ever used this medium, and so no one else ever discovered the cause of American foul brood.

These germs are slender, rod-like bodies that grow in length and finally break into two individuals. This division occurs every 30 minutes, so that beginning with one, in one-half hour you will have 2, in one hour 4, in one and one-half hours 8, in two hours 16, two and one-half hours 32, three hours 64, three and one-half hours 128, and four hours 256 individuals. When the larva dies the germ goes into the spore or resting stage. It begins to thicken in the center or near one end and finally becomes a spherical body. This spore form is the resistant form and is the one which we have to fight in the field.

Dr. White then explained in detail the methods used in isolating one germ, and in making cultures for study. He also explained how the different media or soils were made and how one germ would show a certain character on one medium or soil, for the medium is to the germ what the soil is to the plant, while another germ would show an entirely different character. So by taking many different kinds of media and studying each organism on each medium it is possible to identify them.

Both American and European foul brood exist in Europe. These terms were given them because the European foul brood was worked out by Cheyne in Europe, and American foul brood was worked out in America.

Many samples of pickled brood have been examined, but no cause has been found for it. This is also true of bee-paralysis, and we are still in the dark as to the cause and treatment of these two diseases.

Dr. Phillips then gave a detailed description of American and European foul brood as it appears in the field. He stated that when Cheyne made his investigations he had, according to his own statement, but one specimen which was brought him by Cheshire. Since both diseases exist in Europe it is quite possible that the one specimen was what we now call European foul brood, especially since Cheyne describes the specimen as "watery." To the casual observer the diseases bear a similarity of appearance.

Dr. Phillips stated that at the present time European foul brood exists in New York, New Jersey, West Virginia, Connecticut, Massachusetts, Vermont, Pennsylvania, Ohio, Indiana, Illinois, and Michigan. The European foul brood is usually the more virulent of the two diseases, but on the other hand sometimes disappears of its own accord. He then gave the history of bee-disease investigations, and taking each investigator in turn, showed what was the probable cause which led him to arrive at his conclusions. It is interesting to note that the earliest theory was that a parasitic fly laid its eggs in the body of the diseased larvæ.

Dr. Phillips then announced three publications of the Bureau of Entomology: Technical Series, No. 14, "The Bacteria of the Apiary with Special Reference to Bee-Diseases," by Dr. G. F. White. Circular No. 79, "The Brood Diseases of Bees," by Dr. E. F. Phillips. And a reprint from Bulletin No. 61, Bureau of Entomology, entitled, "State and Territorial Laws Relative to Foul Brood."

Mr. N. E. France, the veteran bee-disease inspector of America, then read a paper on the History of Bee-Disease Inspection in Wisconsin. This paper was one of the gems of the meeting. Mr. France stated that many apiaries where foul brood once existed, after having been treated, were the means of paying off the mortgage on the farm, or of the building a new home for the owner. Other apiaries under different care, though once profitable, are now entirely wiped out or reduced to a few colonies.

Dr. Phillips read a paper from Mr. Charles Stewart, of New York, and also one from Mr. Fred A. Parker, of California. Both papers were valuable and interesting, and both clearly demonstrated the value of thorough and careful work on the part of the inspector.

Mr. J. M. Rankin, of the Bureau of Entomology, who is stationed at Chico, Calif., gave a short talk on the inspection on the Pacific Coast. He stated that he did not know of a case of European foul brood in California, but that the American foul brood was much more virulent there than in the East or North. Few inspectors in California now recommend the shaking treatment, as the time required to treat the disease is of more value than the bees destroyed. The method fast coming into favor is that of boiling up the diseased bees and combs in a large tank. Bee-inspectors, he said, are born, not made. It is an easy matter to learn to detect the disease and to effect a cure. Any man of ordinary intelligence can do this, but it is only a small part of bee-inspection. The difficult part lies in handling the bee-keeper, and, without antagonizing him, get him to comply with the law because he sees the advantage it brings him in so doing.

The practice of carrying an instrument with which to test the dead brood is not a good one. Such an instrument in the hands of an ordinary man is bound to spread infection. The best method is to carry a pocket full of wooden toothpicks, and after testing a diseased cell either push the toothpick into the comb to mark the spot or drop it down the mouth of the smoker and dispose of it. "I do not yet know of one single inspector," said Mr. Rankin, "who is in the work for the money he is getting out of it. They have the good of the industry at heart, to the very last man. Some of them make mistakes, but they all deserve the hearty support of every bee-keeper and every journal. No one has a right to criticize them publicly. If he is incompetent the law provides for his removal from office, and this should be done; but to publish criticisms on the mistakes of an inspector is to harm the industry wilfully."

Mr. L. H. Scholl gave a talk on inspection in Texas and the methods employed. Shaking has not proven satisfactory, and the line they now work on is to sulphur the diseased colony at the entrance with a smoker, and then burn the infected combs.

Mr. J. Q. Smith, inspector for Illinois, described his method of treatment, which was briefly that of shaking once on starters of foundation, and being careful not to allow any robbing or dripping of honey. He stated that in nine out of every ten yards treated he had been successful.

Mr. George W. York, Editor of the American Bee Journal, then offered a motion that a telegram of thanks be sent to Dr. L. O. Howard, Chief of the Bureau of Entomology, as an expression of gratitude felt by the inspectors of the United States for the assistance of his Bureau in the investigation of bee-diseases. The motion was unanimously carried.

Dr. Phillips summed up the meeting in a few very interesting and instructive remarks. He stated that he thought it had been clearly demonstrated that no one treatment could be successful in all localities and under all circumstances. The treatment must be adapted to the locality and the surrounding conditions.

All who were privileged to attend the meeting felt that it was a day most profitably spent, and that such meetings should continue. Bee-inspection must become a science, and the contact of one inspector with another, comparing methods and conditions, cannot but broaden him and better fit him for one of the most important of all branches of apicultural work. R. M. J.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses, by E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

PROVIDING EFFECTIVE DRONES.

Dr. Miller asks what I would *advise* as to providing drones and having them actually effective. I do not feel at all sure that I know what to advise. What's more, it isn't exactly fair to demand it of me at this stage of the game. I am privileged to say, "You are stabbing the button with your needle where there isn't any hole," without first getting positive knowledge as to whether it's more east, west, north or south that's needed to find the orifice. If I am told, "You couldn't sew the button on a bit better yourself," I can reply: "That's so, probably; and yet my original assertion is the truth."

This is my best at the present minute: Choose a few convenient colonies—no need that they be specially high quality ones—and have them for drone-homes. Keep their own drones exterminated as nearly as possible. Give them from time to time *very small* bits of drone-comb with larvæ in—these, of course, to be of best chosen parentage. I don't think giving just a few newly-emerged drones, or even giving just a few brood about to emerge, would be quite so good as this—yet it might for all that I *know*. It would be effective to have chosen drones flying first in spring or last in fall—only some colony you are not thinking of actually gets the first drones flying in the spring; and some strong colony you don't know is queenless is liable to have them last in the fall. Page 814.

LAYING ABILITY OF QUEENS.

Here's a sliding scale of voracity. A soldier, eating his rations and nothing else, eats his weight in about 64 days. A swine does much better. A farmer shuts up 10 shoats weighing 100 pounds each and feeds them corn three times a day—half a bushel of ears at a feed—or say 3 pounds of actual corn per shoat. Thus they eat their weight in less than 12 days. But a mouse, I find, makes nothing of eating one-third of its weight in one night. One of mine ate his companion in 3 days, and lots of other victuals besides. With cracker alone they might fall short of one-third their weight of it; but with apple or sweet potato with cracker they would succeed. Then there's our queen-bee. Food plus water *must be*, at least calculation, 20 percent heavier than her day's total weight of eggs. I'll guess they do not give a queen pure water enough to affect the figures much; but I fear we can not be sure of that. If eggs weigh 388 to the grain (I suspect them lighter), then a queen laying 2000 eggs a day lays a little over 5 grains—say twice her summer weight, or 2½ times her winter weight. We'll say it takes 6 grains of food to produce 5 grains of eggs. If so, she eats her winter weight in 8 hours. Mr. Carr's queen, mentioned on page 950, must have eaten her weight about every 4 hours. [Aside. No wonder queens (except when chilled) starve to death so quickly.]

Here's a way that occurs to me to get a founded *opinion* as to whether they give the queen much water or not. Weigh 100 fresh eggs. Then seek how many thoroughly dried eggs it takes to balance them. If only 120, or thereabouts, then the assumption above is correct. If it takes 200 or more, then they give her water largely.

MICE EATING HONEY AGAIN.

The mouse experiment mentioned on page 917, I repeated on the same mice, and also on different mice, with the same result. That's evidently sound—they don't want to have honey spread on their favorite viands. Next I gave a piece of comb honey to mice having plenty of various kinds of food and also water. Next morn there was an abrasion on one side which I now think was due to mouse-teeth. At the time I felt in doubt whether they did it, or whether it was there when I put it in. Certainly they didn't eat much of it. This honey was exposed to 2 mice for 3 nights. When taken out it was leaking quite a bit below, apparently from being jumped on at play. No considerable eating. And yet I several times saw them *notice* the honey—I being so far off that I couldn't tell whether they merely snuffed it or took a slight sip. From the next experiment I didn't get off quite so well—but the above will do for this time.

MOST MONEY MADE WITH BEES.

So $22,000 is the high-water mark of money accumulated at honey-production—and that long ago when prices were high. Record holder, Adam Grimm. Page 815.

INTRODUCING QUEENS.

Dr. J. H. Heagy, page 816, evidently has "ideas and things" about queen-introduction. Brand-new cage with no bee-smell in it. Companions all newly-emerged bees from the colony about to receive the queen. These kinks can hardly be anything else than good, and may be quite important. His *washing* the queen with water held in a camel-hair brush is rather unique—hardly know what to think as to the utility of it. But we'll kindly play that it does lots of good in ridding her of accumulated odors. Humble her pride a little anyhow, and keep her from abusing the infantile bees she is put with. That her companions (on account of tender age) have nothing to feed her, seems to be a weak point.

CELLS FOR QUEEN-LARVÆ.

Curious. W. C. Gathright finds that cells raw and ragged from the knife are not nearly so acceptable, when larvæ are put in, as when first inserted 2 or 3 hours in a queenless colony. The result of this latter operation is polished and smooth surfaces; and a much larger proportion of the larvæ will be accepted. Page 816.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Bees in the Cellar

Our bees are all snug in the cellar. We put them in Nov. 19. It was a question what to do, as they had not had a flight for about 10 days. But the chances were that they might not have an opportunity to fly for some time, and certainly there has been no chance so far (Nov. 23), as the weather has been very bad all week. It commenced to rain and sleet just as the last bees were brought in, and we have had rain, sleet, and snow — everything in the way of weather but sunshine—ever since.

It gives one a comfortable feeling, when storms are howling without, to know that the bees are warm and sheltered within.

It is a sort of luck and chance game, this putting bees into the cellar. If it is warm and bright, so they can have a flight in a few days, then we are sorry they are put in; on the other hand, every day they stay out, if they are not to have a good flight, is a positive injury.

When the weather-man gets so he can tell us for weeks in advance what kind of weather to expect, won't it be a blessing for bee-keepers?

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Bee-Keeping in California

Without saying where it found it, The Rural Californian copies a very interesting article written by Elizabeth Andrews, who says:

Where Bee-Keeping is an Independent Industry.

Looking down toward the ocean and up the valley you can see over 30 towns and cities, including Riverside, San Bernardino, Redlands, Pomona, Los Angeles, Pasadena and Chino, with its hundreds of acres of sugar-beets and the Chino sugar factory.

On this little plateau, some 9 years ago, my father built a little home. He bought a few bees and located in this then barren spot. We had come from Ashland in Southern Oregon, among the beautiful Sisque mountains, and I must say that at first it all seemed bleak and dry and lonesome to us. But we planted out an orchard of apricot, apple and prune trees, and kept them watered from a little spring in the mountain-side, which was first run into a reservoir. The place soon took on a green look. It seemed more cheery and homelike, and we grew to love the pure air and deep gorges and barren mountains.

As time went on my father increased the number of colonies of bees, and in the spring of the first year we began to extract honey. This, at first, was very amusing to us, and we were all eager to help in any way. I generally got the chance to turn the crank to the extractor. It was interesting to see the men bring in the large frames of honey, and after cutting off the caps from the honey-cells with a sharp knife, put them in the wire-holders in the extractor and turn the crank. The rich honey would fly out of the cells and run down the sides of the tank. When the honey was all out of the frames they would take them back to the hives, and the busy little bees would soon be hard at work refilling them. When the honey season is on they often have them full again in a few days.

The bees gather most of their honey from the wild black and white sages, sumac, goldenrod and sunflowers. In a wet season these flowers grow in profusion on the hills and along the river banks. In the valleys the orange and alfalfa blossoms are full of fine white honey, and in their season are a splendid bee-pasture. After our first year's experience we decided to separate the bees and put part of them down in the valley where they could pasture on these lowland blossoms. We found it a very profitable plan to move them from place to place as the blossoms warranted, as there is little or no honey in the mountains after the summer heat is on, and it is then that the alfalfa is at its best. When we move the bees we wait until they are all in at night. Then we go about and tack little screens over the entrance of each hive. Then we put them on the wagons and haul them wherever we want to leave them. They are unloaded and left with the screens on until they get used to their locality, generally about 2 days.

During the honey-flow, which begins about the first of April and lasts until about the first of September, it keeps about 3 men busy taking care of 600 colonies. The rest of the year one man can do all that is necessary, and he has only to see that the bees have enough to last them through the winter and are in good condition to begin work again in the spring. Some years they have to be fed a little during the winter, but this is only after an extremely dry season. When it is necessary to feed them we sometimes use honey that is not marketable, or a coarse sugar dissolved in water.

In a good season 600 colonies will produce about 30 tons of honey. This is generally readily sold on the market from 4½ to 6 cents per pound, according to the market and the grade of the honey. Comb honey is generally sold at about twice what the extracted brings, or from 9 to 12 cents, but as the combs have to be built each time, and the removed sections replaced, it makes it no more profitable, and as the comb honey is used for table use only, it is not quite so readily sold.

In swarming seasons we put empty hives about near the apiary, and a great many swarms enter these instead of going away to the hills. In this way we get a good many without any one being there to look after them. When we find a swarm on a tree we cut the limb and shake them into a hive. They are generally very quiet, and we often hive them without wearing a veil.

In many places in the mountains the bees are in caves in the rocks. During the first years of our experience we dug out many of these caves, sometimes hiving the bees and sometimes killing them, but invariably getting a large quantity of honey and wax. This wax is sent to the factory to be made into comb foundation, or sold on the market. It always commands a good price. From these wild bees a great many people have gotten their start, but the dry seasons and wild animals have destroyed them until there are but few left in the mountains of Southern California.

In the past 9 years we have increased our first start of about 60 colonies to over 600, besides what we have lost. It is a business that can be run successfully by some one who has other work in the winter months, and withal it is a very interesting and educational occupation. With a little study one can learn to handle them so that they do not get irritated and so get but a few stings. After working with them for a time the stings are not nearly so painful, and swell but very little. They seem to get used to people, too, as we go back and forth through the apiary when going to the spring or pasture.

The bee-business can be started with little money, and if a man is at all enterprising he can soon increase it. As the work among the bees is light a great many women in Southern California do as we have done, and help a great deal in the management of them. We get an abundance of fresh mountain air and recreation from this outdoor life, and find it a very pleasant diversion from our household duties. Elizabeth Andrews.

Corona, Calif.

◆

Bees and Poultry

Quite a controversy has taken place in Gleanings regarding the relative merits of bee-keeping and poultry-keeping. Referring to this, there appears in that paper the following communication from one of the sisters:

Poultry vs. Bees Again—Bees Liked Better.

Since you have published so many articles on poultry vs. bees, I feel like adding my experience to that already given. I can not unite fully with Mr. McGlade, neither can I see the rosy side of chicken-raising with Mr. Pearson. I was born on a farm, and I began to help with the chickens at a very early age. Later I took sole charge of the poultry business at our home. I had a good incubator and brooders; also good thoroughbred stock—part of the time Light Brahmas, and afterward the White Wyandottes. I was fairly successful in hatching the chicks, and I think I usually raised 95 percent of those hatched. My hens laid well, and we had a good market for broilers. I loved my chickens, and I cared for them faithfully. They paid expenses and something more, but I am not sure that I was paid for my labor.

When Mr. McGlade said he worked hard enough to build 17 miles of railroad, and spent all his money on feed, oyster-shells, lice exterminators, etc., I laughed, and said he was very nearly right.

Now, my experience with bees has been of very short duration, so that I feel I know nothing about the financial side of the business; but this much I can say—that, whereas you have to work hard over your bees for 6 months, you must attend to your chickens *every day* in the year; and the more inclement the weather just so much more attention your chickens require. The work for bees is clean and pleasant. Perhaps I need not say how I regard the work for chickens.

In conclusion, I must say that I keep *both* bees and chickens, and I expect to continue to do so, as I am very fond of the products of each. But if I should choose only the work that is agreeable to me, I would take bees, every time, and I believe I can make them pay quite as well as chickens, if not better. Susan E. Williams.

Moorestown, N. J., March 26.

Southern Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

Bee-Keepers' Exhibit at the San Antonio International Fair

There was a very creditable exhibit of apiarian products and bees, although the season was not a very favorable one for Texas honey-producers. The different races were well represented. There was, however, very little light honey on exhibition, and a lack of comb honey, due to the short crop and the great demand for honey that prevailed throughout the entire season, hence the honey was sold long before the Fair. The prizes awarded are as follows:

For the best and largest industrial exhibit, Udo Toepperwein received a Gold Medal. This exhibit consisted of all kinds of bee-keepers' supplies and appliances, apiarian products, bees and queens, and products made from honey and wax.

Best display of special designs of comb honey—H. W. Toepperwein, 1st, $5; 2d, $3.

Best 12 pounds of white bulk comb honey in friction-top pails—Wm. Cravens, 1st, $3; 2d, $2.

Best 6 pounds of white bulk comb honey in friction-top pails—Wm. Cravens, 1st, $3; 2d, $2

Best 3 pounds of white bulk comb honey in friction-top pails—Wm. Cravens—1st, $3; 2d, $2.

Best display of bulk comb honey—Wm. Cravens, 1st, $5; 2d, $3.

Best dozen jars of white extracted honey—Wm. Cravens, 1st, $3; 2d, $2.

Best dozen jars of light amber extracted honey—Wm. Cravens, 1st, $3; 2d, $2.

Best display of extracted honey—Wm. Cravens, 1st, $5; J. W. Griffin, 2d, $3.

Best display of extracted honey in granulated form—Wm. Cravens, 1st, $3; 2d, $2.

Best sample cake of bright yellow beeswax, not less than 2 pounds—Anton Fournier, 1st, $5; Wm. Cravens, 2d, $3.

Best and largest display of beeswax—Wm. Cravens, 1st, $5; Moritz Rompel. 2d, $3.

Best display of special designs in beeswax—Wm. Cravens, 1st, $5; Moritz Rompel, 2d, $3.

Best display of fruit preserved in honey—Wm. Cravens, 1st, $5; 2d, $3.

Best honey-vinegar—Wm. Cravens, 1st, $3; Daniel Wurth, 2d, $2.

Golden Italian bees and queen in single-comb observatory hives—Daniel Wurth, 1st, $5; Bee and Honey Co., 2d, $3.

Three-banded Italian bees and queen—Bee and Honey Co., 1st, $5; Daniel Wurth, 2d, $3.

Carniolan bees and queen—Bee and Honey Co., 1st, $5; Grant Anderson, 2d, $3

Caucasian bees and queen—Bee and Honey Co., 1st, $5; Daniel Wurth, 2d, $3.

Cyprian bees and queen—Bee and Honey Co., 1st, $5; Daniel Wurth, 2d, $3.

Holy Land bees and queen—Bee and Honey Co., 1st, $5; Daniel Wurth, 2d, $3.

Black bees and queen—Daniel Wurth, 1st, $5; Wm. Cravens, 2d, $3.

Best display of bumble-bees—Wm. Cravens, 1st, $5; 2d, $3

Best display of ground bees—Wm. Cravens, 1st, $5; 2d, $3.

Best and largest display of various races of bees in observatory hives—Daniel Wurth, 1st, $10; Bee and Honey Co., 2d, $6.

Best and largest display of queens of various races, in mailing cages—Daniel Wurth, 1st, $5; Wm. Cravens, 2d, $3.

Best case of white section honey—Wm. Cravens, 1st, $5; 2d, $3.

Best case of light amber section honey—Wm. Cravens. 1st, $5; 2d, $3.

Best and largest display of section comb honey—Wm. Cravens, 1st, $5; 2d, $3.

Best instructive display of apiarian products and the various uses made of honey and beeswax—Wm. Cravens, 1st, $20; 2d, $10.

Largest and best display of bee-keepers' supplies—Udo Toepperwein, Diploma.

Does Corn Yield Honey?

This much-disputed question has been asked me several times of late, and what my opinion is in regard to the matter. The same question is asked about sugar-cane or sorghum.

It is supposed that most plants yielding pollen also yield *some* honey, however small in quantity. The general belief is that sorghum yields some honey, but there is much doubt as to whether the corn-tassels yield any honey at all, although giving much pollen. This question has quite frequently bobbed up at conventions, but no absolute or satisfactory proof has ever been given.

H. H. Hyde, at the 1900 annual meeting of the Texas Bee-Keepers' Association, cited a case whereby he thought he had proven, to his own satisfaction at least, that corn yielded honey, and sometimes in large quantities, as some of his bees had stored surplus honey from this source. It was during a dry summer, when nothing else was in bloom for the bees to work on, that a late field of corn near one of his apiaries came into bloom. The bees worked vigorously on the tassels, and Mr. Hyde claims that they did not only get pollen in large quantities, but also honey in abundance, and stored it in supers. Mr. Hyde was very positive that this was the only source from which the honey came, as there was absolutely no other bloom anywhere—to the best of his knowledge—from which the bees might have gathered the honey, except from the corn-tassels.

There is room for investigation, and by this an old, much-disputed question might be solved. Mr. L. B. Smith, of Rescue, Tex., referring to this same subject in the Dallas News (Tex.), has this to say regarding his observations:

> It is claimed by some of our able writers on apiculture that sorghum cane, milo maize, corn-tassel and the various oaks are all honey-producers. With no desire to provoke controversy, I will say this is not in accordance with my observations, and I have been a close observer of such things from early childhood. I have examined the honey-sacs of hundreds of bees when working on the bloom of the above-named plants, but have never been able to discover that they were getting any honey. By taking a little pains any one can easily tell when bees are getting honey from any bloom. Find a bee that is working on the bloom that you are in doubt about, catch it by both wings so that it can't sting you, as we do in caging to send off by mail with queens. Now place the bee on a clean, smooth surface, say a newly painted hive-cover, or a sheet of note-paper will do. Now gently press on the abdomen of the bee with one finger of the other hand, and if it has any honey whatever in its honey-sac it can be made to disgorge it without hurting the bee in any way.
>
> I have examined hundreds of bees in this way while working on cane-heads, corn-tassel, maize-heads, etc., and could never make one disgorge a particle of honey. So I conclude they get nothing but pollen from them.

We would be glad to hear from any other bee-keepers who have made observations on this question.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Or we will send it with the American Bee Journal a year—both for $1.10. Address the office of the American Bee Journal.

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Leaving Empty Supers in Hives in Winter

This has been a very poor season for bees. I have about 14 colonies, and but one that has stored any surplus, and that one is an Italian colony. I have always taken off the supers in the fall, and have put on empty supers filled with old rags, etc., but as there is no honey in the supers, will it not do to leave the supers on? Will the bees winter just as well? Missouri.

Answer.—It will take quite a bit of the heat of the bees to keep warm the empty space in the super over them, and as far north as you are, there will be no heat to spare. Besides, if the super is a section-super, the sections would be spoiled to leave them on over winter.

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New Pure Food Laws and Bee-Keepers

Referring to the new pure food law, as given in Gleanings, what is to prevent a dishonest dealer from buying honey, mixing glucose with it and selling on the guarantee of the bee-keeper of whom he bought it? Or rather, what protection has the bee-keeper, or what assurance has he that such will not be done? To illustrate:

A is an honest bee-keeper. He sells 1,000 pounds of extracted honey to B (a dishonest dealer), in 60-pound cans, giving B a written guarantee that it is pure honey. B unscrews the tops of the cans, empties out the honey, mixes 1,000 pounds of glucose with it, puts it back in the 60-pound cans and proceeds to sell it to C, D, E, etc., on down to Z, giving each a guarantee that it is pure honey. Z discovers it is adulterated and goes back on B, who falls back on his guarantee from A. How is A to prove his innocence?

It may be that I am unduly alarmed, but I really am afraid some poor bee-keeper who is not able to stand a long-drawn-out lawsuit is going to have trouble, and I think it well for this matter to be discussed in the papers, and, if necessary, some means devised by which the cans may be sealed in such a manner that the honey cannot be removed without breaking the seal. It would be well for bee-keepers to be fully prepared to protect themselves by the time they harvest another crop. Texas.

Answer.—Your question is a timely one, and yet it was evidently not left altogether out of view by the editor of Gleanings. As he says in substance, if A sells a package of honey that is adulterated he is safe from punishment if he can fall back upon B, from whom he bought it with B's guarantee of purity, and B can in like manner fall back upon C, the producer. But note that he adds, "As I understand it, this guarantee will not apply in any case where the original package in which the goods were received has been broken and the goods have been put into other packages." Then comes into play your suggestion that the producer must seal the package in such a way that it will be easy to prove if the seal has been broken.

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Disturbing Bees in the Cellar

I began keeping bees a year ago last spring. I put 9 colonies into winter quarters Nov. 10. They were all in good shape except 2 colonies, which had foul brood, and I did not know it till quite late in the season. I changed their frames twice, giving them one-inch starters first and full sheets of foundation the last time, so they hadn't time to get enough honey for their needs. I fed syrup vigorously till it got so cold that they could not take any more. They seem to have quite a little supply, but I am a little "scary" about it. They are my best colonies. Last winter I had some colonies that were short. They had a little along the top-bars of every frame. So I used to go and look at them about once in 2 weeks and move the outside frames towards the center, for they did not seem to get to them if I did not do so. I brought them through all right. Do you think it pays to bother them in the cellar, or would they get along better if let entirely alone?

I am trying to winter a small nucleus whose queen died along in the summer. Before I noticed it they were almost nothing, so I felt sorry for the little things and got a queen for them, put them in a nucleus hive, and fed them, and soon the queen got to laying and had quite a little brood by the end of the harvest. I made a feeder of my own design to go on the outside of the hive about half-way up to the rear end of the hive. As far as I can see, they are all right. I filled the feeder full of thick syrup before I put them away for winter. Minnesota.

Answer.—Disturbing the bees once in 2 weeks throughout the winter is certainly no benefit; but as they came through all right in your case, it could not have done so very much harm. The probability, however, is that in the cellar the bees would have reached the stores without any interference on your part. If the cellar is of the right temperature, never much below 45 degrees for many days at a time, I think I would risk letting them hunt the stores for themselves, so long as plenty of stores were in the hive.

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Moving Bees a Short Distance—Correct Amount of Winter Stores

1. I would like to change my bee-hive places, but leave them on the same piece of ground. What time of year is the best for this work, so that the bees won't mix?

2. What direction should I turn the hive-entrance, or does it matter what direction this far south?

3. All my bees had from 20 to 25 pounds of stores per colony, November 10. Do you think it is enough for the winter? Missouri.

Answers.—1. The best time is when they have been confined to the hives the longest, so that their first flight after their long confinement will be from their new location. If you could tell just when their last flight would be before their longest winter imprisonment and their first flight after it, the ideal time to move them would be on the evening of the day of their last flight, or in the morning before their first spring flight.

2. Small matter which way they face, although there is a somewhat general preference for having them face south and southeast.

3. Being in latitude 38 or 39, you undoubtedly winter bees outdoors, and very likely the weather will allow your bees greater activity than in localities farther north, resulting in greater consumption of stores. Some colonies may pull through with 20 pounds of honey, and others may starve with 25. It would certainly be safer to have them heavier.

Reports and Experiences

Size of Winter Hive-Entrance—Winter Loss of Queens

I notice that there is a great difference in ideas among amateur bee-keepers about the size of entrance for winter, but I believe nearly all agree on 2 square inches capacity. It is all right if given in the right place, or rather at each corner, but if it is given all in the center, and the cluster of bees is in the center, through a long cold snap it gets clogged with dead bees. Then if there comes a warmer time, but not warm enough for bees to fly, water sometimes runs from the entrance and freezes as it comes in contact with the outside air. Now, as the dead bees help to hold the water they are frozen up air-tight, and if another cold spell comes on that colony is doomed even with plenty of honey. Many times I have found the entrance on one side frozen solid with ice, but the other side clear and free. So don't pin your faith on a single entrance, except it is the full width of the hive.

Another thing I would like to hear about is, How many bee-keepers have lost queens in winter that can account for it? A hen found her way into one of my bee-houses last January and laid in a super that had been left there. The colony under and on each side lost their queens; came out queenless in the spring. Two queens were reared the year before. I lost no other queens in the bee-houses. Forty-five others came through all right. I shall see that my bees are not disturbed in very cold weather this winter.

Marceline, Mo., Nov. 5 IRVING LONG.

Secured More Honey Than Others

I have been too busy to give proper care to my bees, but I secured more honey than any one else in this neighborhood the past season. My best colony produced 56 sections of honey and 5 extracting supers full to overflowing.

LEWIS LAMKIN.

Sioux City, Iowa, Nov. 7.

Home-Reared Queens, Etc.

I have reared several queens this year, but not by the Doolittle plan, and have found by careful breeding that queens reared by this plan are as good as anybody needs. I have received several queens from different States by mail, and find that they don't do any better than those reared right at home; but if one is rearing queens he has to get a breeder or common stock from some other State in order to get different blood, care being taken that all drone-larvæ are destroyed. With an uncapping knife shave their heads off, or use entrance-guards to be sure that none get out. Now, when all are destroyed, and when certain that nothing but the best drones are at large, have the virgins in nuclei, and you will find that queens mated in this way are as good as those received through the mail, if not better, as most of the queens received by mail are somewhat injured by throwing the mail-sacks on and off the cars. I received one by mail that would lay from 3 to 10 eggs in one cell for nearly a week, after which she would begin to lay only one in each cell, and turned out to be a good layer at last; but the eggs that were laid the first week were quite a loss, just when I wanted the bees most.

My bees have done fairly well this season. Some of the strongest have stored 150 pounds of extracted honey, but have not stored much section honey. They would sooner work in a hive-body with starters than to enter a super.

I had 20 colonies last spring, increased to 35, and got 1000 pounds of extracted and about 150 pounds of comb. The fall crop was very good, so they had plenty of stores below for winter. Some of them have stored 40 pounds of fall honey above, which I extracted.

I sell all my honey right at home at 8 cents for extracted, and 10 to 15 cents for comb, according to color and weight.

B. F. SCHMIDT.

North Buena Vista, Iowa, Nov. 12.

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Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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Gold Fountain Pen
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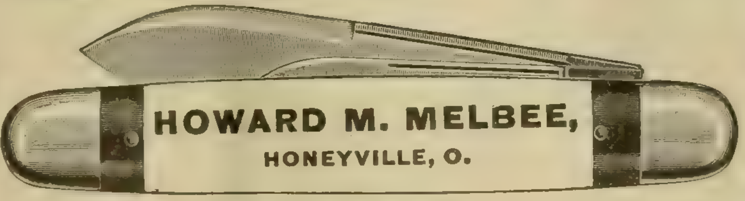

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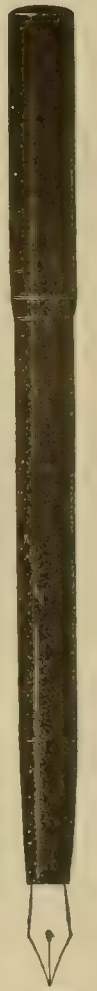
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(Name and Address on one side—Three Bees on the other side.)

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Queen

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the owner, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

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Finally we have found a good Fountain Pen that is reasonable in price. The manufacturers of this pen say that if you pay more than $1.25 for other fountain pens, it's for the name.

This pen is absolutely guaranteed to work perfectly, and give satisfaction. The Gold Nibs are 14 kt., pointed with selected Iridium. The Holders are Para Rubber, handsomely finished. The simple feeder gives a uniform flow of ink. Each pen is packed in a neat box, with directions and Filler.

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New York.—A series of Bee-Keepers' Institutes will be held in New York State as follows: Amsterdam, Dec. 10; Syracuse, Dec. 11; Fulton, Dec. 12; Gouverneur, Dec. 13, 14; Auburn, Dec. 15; Romulus, Dec. 17; Geneva, Dec. 18, 19—State Convention. Mr. Chas. Stewart, of Sammonsville, N. Y., has been engaged as Institute Speaker. Mr. Stewart is one of the State Bee-Inspectors, and has shown a great interest in the welfare of the bee-keepers of the State.

Romulus, N. Y. C. B. Howard, Sec.

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Big Profits in Capons
Caponizing is easy—soon learned. Complete outfit with free instructions postpaid $2.50.
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Until further notice **30c cash** paid for pure, yellow beeswax, delivered here.
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BELL BRANCH, WAYNE CO., MICH
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Bargains Best Wisconsin Sections, per 1000—$4 00; No. 2—$3.40; plain, 25c less. 7 percent discount in October on Root's and Danz. Hives, and other Root's Goods.
40A26t **H. S. DUBY, ST. ANNE, ILL.**

If you want the Bee-Book
That covers the whole Apicultural Field more completely than any other published, send $1.20 to
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—FOR HIS—
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1 Steam Pump.
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Come or send and **Save 25 to 50 Percent** on slightly damaged goods.
Lewis Goods at 4 percent Discount DURING DECEMBER, EXCEPT ON HONEY-PACKAGES.
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☞ **Send for list of Slightly Damaged Goods to select from at Reduced Prices.**
Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.
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(Three blocks north and one block east of our old location.)
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are now in effect. We furnish EVERYTHING needed in practical Bee-Culture, at lowest prices.
We make the best-finished and substantial
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are not excelled for durability, fine workmanship, and practical utility.
Have you seen our latest improved Champion Smoker? If not, you miss it until you get one.
Satisfaction guaranteed, or money back. Address,
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Catalogs issued in English or German.
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Our specially prepared Gloves soften the hands and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff. We furnish them without armlets or sleeves for using in sweeping, gardening, or general housework, driving or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white.

All the points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail, or with other goods, at the following low prices:

Bee-Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies..... .35
Men's Gauntlets, fleece lined................ .35
Ladies'.................................... .35
Ladies' unlined, for wearing at night or during doing light housework............. .40

Early Order Discounts on Bee-Supplies (excepting above and a few other articles) as follows:—
7 percent for cash with order before Oct. 1st
6 " " " " Nov. 1st
5 " " " " Dec. 1st
4 " " " " Jan. 1st
3 " " " " Feb. 1st

If you haven't our 1906 catalog, send for one and a free copy of the American Bee-Keeper 50c a year). Address,

THE W. T. FALCONER MFG. CO.
JAMESTOWN, N. Y.
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Headquarters for Bee-Supplies
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Will buy or sell you . . HONEY If you have any to sell, . . . mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

Beeswax Wanted

Will pay, at all times, highest market price on receipt of goods.

C. H. W. WEBER CINCINNATI ...OHIO...
Office and Salesrooms, 2146-48 Central Ave. Warehouses: Freeman and Central Aves.

Honey and Beeswax

Chicago, Nov. 7.—The market is taking honey, both comb and extracted, in a very satisfactory way. The price of No. 1 to fancy comb is 15@16c; off grades, 1@2c per pound less. White extracted, 7½@8c; amber, 7c; dark, 6@6½c. All of this is governed by quality, condition, and package. Beeswax, 30c per pound.
R. A. Burnett & Co.

Kansas City, Nov. 8.—The demand for both comb and extracted honey is good, receipts light. We quote fancy white comb, 24 sections, at $3 25; No. 1, $3; No. 1 white and amber, $2.75. Extracted, white, per pound, 7c; amber, 6@6½c. Beeswax, per pound, 25c.
C. C. Clemons & Co.

Cincinnati, Oct. 20.—The demand for comb honey is good. No. 1, white, brings 14½c wholesale, and 16c retail, by the case. Off grades less from 2@3c per pound. White clover extracted brings in barrels, 8c per pound; in cans, 8½c; amber grades, light, 6c in barrels; dark, 5½c in barrels; in cans, ½c per pound more. Beeswax, 30c.
C. H. W. Webber.

Philadelphia, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission.
Wm. A. Selser.

New York, Nov. 19.—We are having a good demand for white comb honey of particularly fancy stock, and same finds ready sale at 15c, and 13@14c for No. 1 white. Receipts up to date have been quite numerous, but we expect that from now on they will be lighter, as the bulk of the comb honey, we believe, has been marketed. No. 2 white, amber and buckwheat are in fair demand, with sufficient supplies to meet same. We quote at from 10@12c, according to quality. Extracted honey is in good demand, principally California stock, and strictly white sage is now selling at 7½@8c; light amber at 7c, and amber at 6½c. Extracted near-by, New York State amber and buckwheat, at 6@6½c, with a fair demand. Southern is in good demand at 55@65c per gallon, according to quality, for good average stock; 75c for fancy. Beeswax, 30c.
Hildreth & Srgelken

Denver, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
The Colo. Honey-Producers' Assn.

Cincinnati, Nov. 3.—The honey market is rather quiet at this date, owing to the market being flooded with comb honey; selling slowly at from 14@16c. Extracted amber honey sells at 5½@6½c. White and fancy grades find sale at from 7½@8½c. There is not so much moving as one might be led to believe. Beeswax is dragging at 29@30c for choice yellow.
The Fred W. Muth Co.

Indianapolis, Nov. 15.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Toledo, Oct. 19.—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
The Griggs Bros. & Nichols Co.

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Ask any dealer who handles our make along with any other and he will say, "Of course, Dadant's is the best."

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It will cost you no more than any other.

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WE WILL SELL

to Bee-Keepers, whose crop is not large enough to supply their trade, various grades Honey. Let us know your wants and we will do our best to satisfy you.

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AMERICAN BEE JOURNAL

46th Year CHICAGO, ILL.; DEC. 13, 1906 No. 50

W. H. Laws. *Huber Laws.* *Ben Laws.* *M. H. Osman.* *J. W. Taylor.*

Hauling 200 Colonies of Bees on One Trip in Texas.

Apiary of P. W. Brey, of Ontario, Wis.
(See page 1014)

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PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

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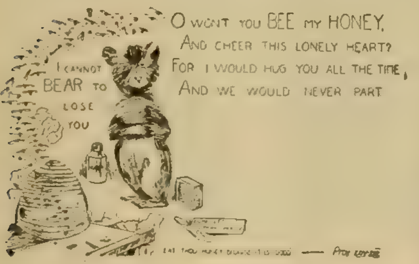
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AND CHEER THIS LONELY HEART?
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AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

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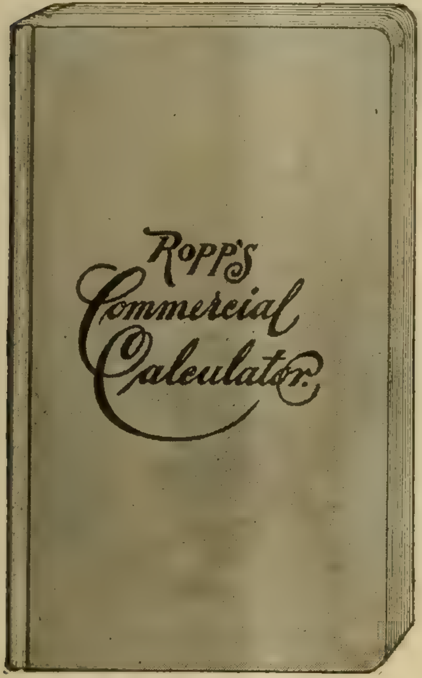

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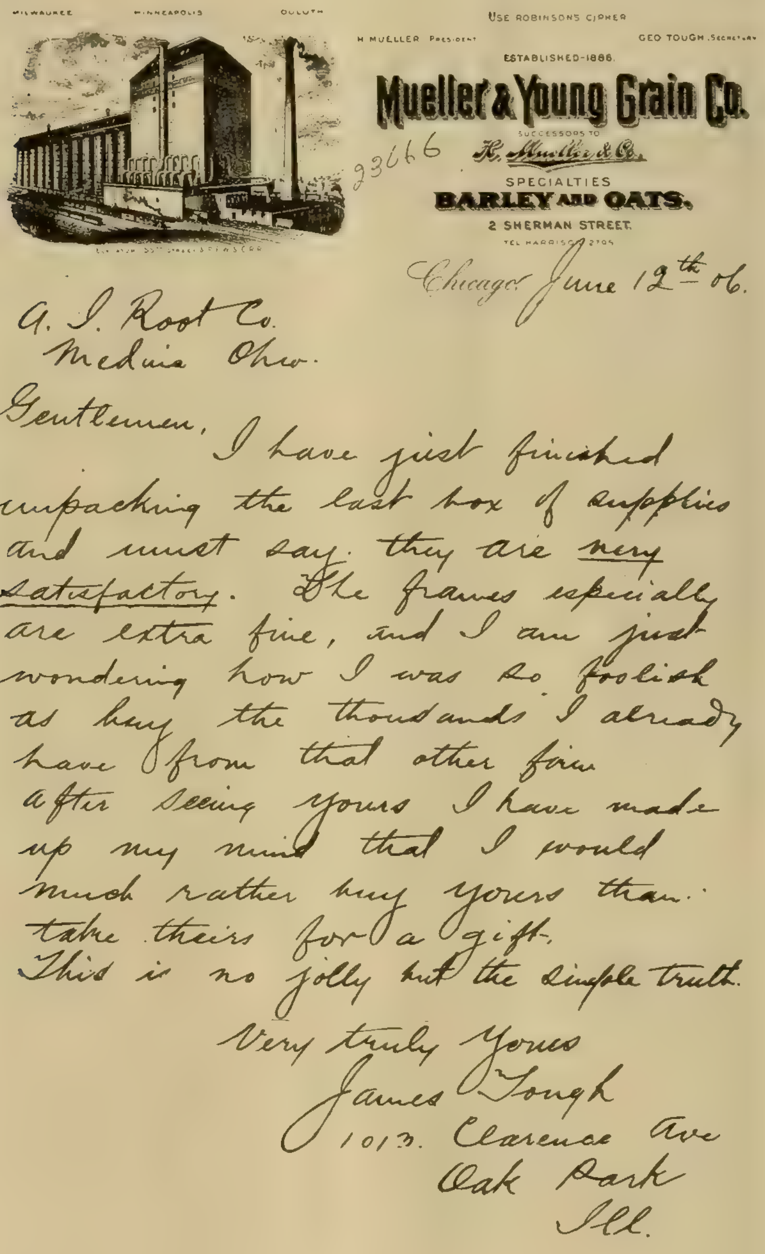

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Chicago, June 12th 06.

A. I. Root Co.
Medina Ohio.

Gentlemen, I have just finished unpacking the last box of supplies and must say they are very satisfactory. The frames especially are extra fine, and I am just wondering how I was so foolish as buy the thousands I already have from that other firm after seeing yours I have made up my mind that I would much rather buy yours than take theirs for a gift.
This is no jolly but the simple truth.

Very truly Yours
James Tough
1013. Clarence Ave
Oak Park
Ill.

Mr. Tough's letter is one of many we have on file.

The A. I. Root Company,

Manufacturers Bee-Keepers' Supplies MEDINA, OHIO

L. LANGSTROTH
CHAS. DADANT

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
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GEORGE W. YORK, Editor CHICAGO, ILL., DECEMBER 13, 1906 Vol. XLVI—No. 50

Editorial Notes and Comments

Advance Notice When Selling Honey

Sometimes a very little thing makes a big difference in one's success. Here's one of such little things, given in the Bee-Keepers' Review by Geo. H. Kirkpatrick, which may make no small difference in the number of sales; especially seeing that along rural routes men do not generally leave money with their wives when its need is not foreseen:

> I give notice to the heads of families on a certain R. F. D. Route, 10 days previous to my canvass, by mailing a card that I've gotten out. On this card I give my occupation, when established, and post-office. One sentence reads:
>
> "*Sir:*—I wish to inform you that I will canvass Rural Route No. [giving the number of route and date of the day or days I will make the canvass.]"
>
> In this way I largely increase my sales, as the people are expecting me, and have saved a dollar with which to purchase a pail of honey. I am sure I make many more sales by giving the people notice of my coming, than I would were I to make the trip unexpectedly.

◆

Preparing for Next Season

The winter days will soon be here, and also the long winter evenings. It will be the time to prepare for next season's work with the bees.

First, and foremost, is the reading of bee-books and bee-papers. He who is best informed these days, in any line of business, should not only be able to get the most out of his work in a financial way, but also enjoy his work most, besides being of the greatest service to those about him and to the world at large.

Perhaps you have read your bee-books before. Never mind, it will pay to go over them again very carefully. Perhaps there never was a book written that could be digested at the first reading. Especially is this true of bee-books. And the same can be said of bee-papers. We have yet to see one that was not worth reading—that is, one worthy to be called a bee-paper.

During the hurry and heat of the summer one scarcely feels like reading very much. But the winter evenings are almost here, when, with the rest of the family gathered around a cozy fire, one can really enjoy reading, and get great profit out of it for future days. Doubtless many copies of the American Bee Journal were merely glanced over during the past 6 or 8 months. If so, the opportunity to read them thoroughly will soon be here. Look them up, and see the abundance of good things that were overlooked.

It may be true that with many the one just past was a poor honey season. But the next may be the best ever. Who knows? If it should be a good season, that bee-keeper who is best prepared to take greatest advantage of the honey-flow will be the most successful.

We know the inclination is to "let up" in one's efforts to do anything further when discouragements come. But the sun is not always kept from shining. Cloudy days are as needful as the sunshiny ones, and the latter are more appreciated by reason of the former.

The command that comes to each one of us these December days is to "Go forward!" Profiting by the experiences of the past we shall all be the better prepared to win success in the future—whether it is with bees or anything else.

◆

Caucasian Bees in Colorado

Frank Rauchfuss imported 3 Caucasian queens in the summer of 1900, and tells about them in Irrigation. He gives them the usual credit for good-nature, and also mentions among other things some not so generally known:

> They are very prolific, keeping the hive well supplied with brood the season through, and stand confinement in cages better than any other race with which we are acquainted. On a test a virgin queen was kept in a queen-cage without bees for 30 days, and was quite vigorous at the end of that time. They will also mate and become good, useful queens long after other queens are either worthless or dead.
>
> The brood-chamber is hardly ever supplied with stores, unless the giving of surplus room is neglected, so that there is during the season always a good supply of brood. They are not very much inclined to swarm, much less so than Carniolans, and if they do prepare for it they will not only start queen-cells by the dozen, but by the hundred, which are generously supplied with royal jelly. This makes them the ideal bee for the queen-breeder.
>
> In honey-gathering qualities they do not come up to the best strains of Italians or Italian-hybrids. Nor is this to be expected in the start, as they are likely to improve in this direction by careful selection in breeding.
>
> We have wintered these bees on the summer stands without any additional protection, just like the rest of our stock, and they appear to be entirely hardy.

Mr. Rauchfuss is quite hopeful as to results of judicious crossing, saying "our experiments of mating Caucasian queens to Italian drones have given us a very gentle bee, of fine working quality."

This report is of value as coming from so trustworthy a source after 6 years of quiet opportunity for observation.

◆

Bees Mourn Their Keeper!

Several of our readers have kindly sent us a clipping taken from various newspapers, which shows the popular weakness for believing everything told about the wonderful things bees know and do. It is surprising what illuminated imaginations certain newspaper reporters possess. The clipping referred to reads as follows:

> WALL LAKE, IOWA, Nov. 12.—Oliver J. Seers, a pioneer bee-man died suddenly. It has been his custom to move among his bees without covering his hands or face. The bees followed him about the house and yard. In the winter when their supplies ran low, he fed them sugar syrup and rye-flour. He covered their hives with blankets to keep out the

cold. He never lost an opportunity to minister to their wants, and he believed the insects had a real attachment for him.

From the day of Seer's death there was unrest in the colony of bees. On the day of his funeral they swarmed about the hearse, and thousands followed it to the cemetery. The following day it was discovered that the hives were deserted. Several swarms of bees were found in the trees near the grave of their former owner. The others had mysteriously disappeared.

One of those who sent us a copy of the above, writes thus:

"Old-time bee-keepers claim that if a relative of a bee-keeper dies the bees will dwindle away, provided they are not moved at least one foot. I would like to hear from other bee-keepers if such is the case, and what is the reason therefor. The above clipping seems to prove it."

It will be noticed that the dispatch is dated Nov. 12, and if several swarms went to the cemetery anywhere near that date in Iowa, they must have had more affection than good sense. It must have been a novelty to see bees swarming in November!

It is the old superstition over again, that bees visit the coffin of their care-taker, and doubtless the mistake was made of not "whispering to them the death of their owner!"

Some bees might be seen on a freshly varnished coffin, and so they might on a freshly varnished chair; but it would be all the same to them who occupied either. As to swarms leaving their hives to settle near the grave of their owner, some testimony would be needed to prevent one from thinking it pure invention.

Some newspapers that published the item headed it with these words: "Bees Mourn at Keeper's Bier." If they did, they must have had a little too much "beer."

The "most remarkable" thing in the case is that such rot should be allowed to find place in an ably conducted paper.

that time. Among them my house was burned, losing almost all the furniture, a comb foundation mill, a lot of comb foundation, 4000 pounds of honey, and all of my extracting combs. The bees had not been put into the cellar yet, so they were not burned. As I had no cellar of my own to put them into, I put them in my neighbor's cellar. It was a poor one for the bees, with no chance for ventilation, and the result was that I lost 60 colonies that winter.

I have generally kept from 100 to 200 colonies during the last 15 years. The picture was taken in August, 1904. That was a very good season for honey. I had 118 colonies, spring count, increased them to 176 colonies, and took 12,500 pounds of light extracted honey, being an average of about 106 pounds to the colony. Last year was a total failure; but this year I got 10,000 pounds of extracted honey.
P. W. Brey.

"The Bacteria of the Apiary, with Special Reference to Bee-Diseases," by Dr. G. F. White, Expert in Animal Bacteriology, Biochemic Division, Bureau of Animal Industry, is a bulletin just issued, and is for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C. It will be mailed for 10 cents, and all remittances should be mailed payable to him. Stamps, personal checks, or foreign money will not be accepted in any case. This bulletin is also known as "Technical Series, No. 14, of the Bureau of Entomology." It is undoubtedly the most exhaustive pamphlet on the subject ever issued in this country, and should be found in every bee-keeper's library.

Miscellaneous News-Items

The Chicago-Northwestern Convention was held last week. While the attendance was not as large as last year, the interest was good. It was, as usual, a question-box convention. A full report was taken in shorthand, which we expect to publish in due time. The election of officers resulted as follows: President, George W. York; Vice-President, Miss Emma M. Wilson, of Marengo, Ill.; and Secretary-Treasurer, Herman F. Moore, of Park Ridge, Ill.

A photograph was taken of the convention, which was very good indeed. Price, postpaid, in mailing tube, 60 cents. Send orders to the office of the American Bee Journal, and we will see that the pictures are mailed.

The Recent National Election of officers for 1907 resulted as follows:

N. E. France, Platteville, Wis.,
General Manager National Bee-Keepers' Association—

Dear Sir: — We, the undersigned, have counted the votes cast for officers for the National Association for 1907, and the results are as follows:

Whole number of votes cast for President, 752, of which L. A. Aspinwall receives 403, M. A. Gill 340, and scattering 9 votes.

Whole number of votes cast for Vice-President 797, of which Geo. E. Hilton receives 315, E. W. Alexander 299, W. H. Laws 179, and scattering 4 votes.

Whole number of votes cast for Secretary 801, of which Jas. A. Green receives 436, George W. York 306, W. Z. Hutchinson 56, and scattering 3 votes.

Whole number of votes cast for General Manager 807, all of them being cast for N. E. France.

Whole number of votes cast for Directors 2283, of which G. M. Doolittle receives 620, Jas. A. Stone 515, R. A. Holekamp 442, Wm. Russell 303, J. J. Cosby 243, E. E. Pressler 154, and scattering 6 votes.

W. Z. Hutchinson, *Secretary*.
Leonard S. Griggs, *Member*.

Mr. N. E. France, General Manager,
National Bee-Keepers' Association—

Dear Sir:—As the result of the ballot for officers of the National Bee-Keepers' Association, as given above, I declare the following persons elected to serve for the year 1907, to-wit: L. A. Aspinwall as President, Geo. E. Hilton as Vice-President, Jas. A. Green as Secretary, N. E. France as General Manager, and G. M. Doolittle, Jas. A. Stone and R. A. Holekamp as Directors for the ensuing term.

R. L. Taylor,
Chairman of Directors.

Moving Bees in Texas.—The picture shown on the first page was secured recently, and represents quite a caravan of wagons loaded with bees—200 colonies, at one trip, near Beeville, Tex. Messrs. W. H. Laws and J. W. Taylor are both extensive honey-producers and queen-breeders. Their total apiaries aggregate over 1700 colonies, all located among the mesquite brush of Southern Texas.

The Apiary of P. W. Brey is shown on the first page of this week. When sending the photograph, on Nov. 26, Mr. B. wrote as follows:

There are 176 colonies in my apiary, although the photograph shows only 171, as there are 3 colonies cut off on the northeast corner and 2 on the southwest corner. The lady to the right in the picture is my wife. The next is my daughter and her little boy. The next is my niece and her baby boy. The older boys are my sons, Harry, Earl, and Edwin with his dog.

I have been keeping bees for about 20 years, and have had many ups and downs during

State Foul Brood Laws.—We have received, through Dr. E. F. Phillips, Acting in Charge of Apiculture, a copy of a reprint entitled, "State and Territorial Laws Relative to Foul Brood," issued by the Bureau of Entomology at Washington, D. C. Dr. Phillips says this reprint will be sent free to any persons requesting it, but the supply is rather limited, and therefore the Bureau of Entomology prefers to send it only to persons who really have some use for it. Of course, every inspector, and all others who are interested in securing State laws on bee-diseases, should have a copy of this compilation of all the laws, so as to be in possession of as much information as possible on the subject.

The Mexican Supper in San Antonio.—This, as previously announced, was fully equal to the warmest anticipations. About 4:30 p m. of the second day of the convention (Friday), Mr. France, we think it was, arose and said that as the Texans wanted to give the bee-keepers a genuine Mexican supper at 6 o'clock, it would be necessary to adjourn soon in order to be on hand before the eatables "cooled off" too much.

The Secretary, just before adjourning, said that as we were in a strange land, among many strangers, and some of them treacherous Mexicans and long-horned Texans; and as we were soon to indulge in what might prove to be risky and somewhat serious, to the inner man at least; he wished to warn all to be prepared for the worst. He had just heard and seen fall on the floor from a Texas member's pocket, something that looked like a "concealed weapon." Of course, if such were the case, it might be well for all to go armed, in order to defend not only our beloved lady members, but ourselves as well. Whereupon, Mr. Laws stretched himself upward to his fullest length, and held aloft the aforesaid "concealed weapon," which proved to be only one of the large hive-scrapers which the G. B. Lewis Co. had given to each member as a souvenir. After this all hearts beat naturally again, and the Secretary resumed his usual meekness!

Finally, a little after 6 o'clock, all arrived at the original Mexican Restaurant, on Losoya Street, where, in the banquet hall on the second floor, were arranged two long tables, which were soon taken by the expectant bee-keepers, all eager to begin on—well, we think that none except the initiated knew what we were to begin on, and also end on, for only those who could read a little Spanish could tell what the several courses were, as they were selected from the following menu, which looks rather threatening to a "tenderfoot:"

MENU

Regular Supper 25c

CONSISTS OF

TAMALES
CHILI CON CARNE
ENCHILADAS
FRIJOLES
TORTILLAS DE MAIZ
SOPA DE ARROZ
CAFE

❀

Short Orders

Sopa de Arroz . .	5	Cabrito	30
Chile con Carne . . .	10	Chiles Rellenos	15
Frijoles	5	Tortillas de Maiz .	5
Huevos con Chile . .	15	Pollo con Calabaza . .	20
Tamales .	10	Mole Poblano	20
Enchiladas . . .	15	Alvondigas de Arroz . . .	10
Enchiladas con Huevos .	25	Guajolote con Salsa de Chile	25
Café . . .	5	Chocolate . . .	10

After trying to stow away everything that was served by the Mexican waiters, the reader can imagine what a warmed-up crowd it must have been. Especially as the weather was also quite hot enough to be in keeping with the peppery dishes that were set before the confiding bee-keepers. But as finally the drinks (coffee) were reached, and sent down after the rest of the "hot stuff," Mr. Toepperwein arose and begun his duties as toastmaster. He called on several persons to speak, although not previously notified in most instances, and so were quite unprepared. Besides, who could talk after "mouthing" so much that was red-and-cayenne peppery?

Pres. Dadant, the Frenchman, was the first to recover so that he could attempt to speak again. He said he felt as if he had been "eating bees with the stings left in." That expressed it exactly, and in a way that all the bee-keepers, at any rate, could clearly understand. For at least once in his life, Mr. Dadant had the fullest and warmest sympathy of his audience.

Another said that he could now better understand the real meaning of one of the popular songs of the North, entitled, "A Hot Time in the Old Town To-night." San Antonio was surely an "old town," and wasn't the "hot time" right then and there? This same speaker said he was sure his wife would ask him, on his return to the North, just what he had to eat at "that Mexican supper"—and that's what he'd like to know himself. Think of the humiliation that must have come to him when he faced his good wife again, and let her know that he had been indulging in such awful things as were mentioned on the menu of the Original Mexican Restaurant!

Mr. Putnam and several others were "too full for utterance," or too warm, and so did not respond when called upon.

But space forbids giving any more details of this great, red-hot spread. It was certainly a novel affair, and will not be forgotten by all who were permitted to be present.

As a fitting close, all stood and sung "America" most heartily, after which the "procession" returned to the convention hall for the evening session.

◆

San Antonio Photograph.—We have some of the San Antonio convention photographs, showing over 100 of those present at the National convention. We are sending them out in mailing-tubes at 60 cents each, postpaid. Send orders to the office of the American Bee Journal.

Contributed Articles

Hive-Making at Home—A Rejoinder

BY ALLEN LATHAM

Since Mr. Greiner, on page 963, has "all the argument, and at least nine-tenths of the bee-keepers" on his side, it may seem folly on my part to venture a reply to his arguments, backed as he is by such a host. But, like David of old, feeling that the right is with me, I shall see whether the brook between us will furnish a few smooth arguments for my ready sling; and I warn Mr. Greiner to keep well in, back of his shield-bearer, for I shall sling to hit.

Yet I do not count Mr. Greiner mine enemy, nor do I reckon nine-tenths of my brother bee-keepers to be Philistines. I trust to keep well within the bounds of friendly criticism, for I would not be outdone by Mr. G. in that respect. Moreover, I would have it understood that I heartily concur with Mr. G. in nearly all that he says. Looking at the matter from this point of view, and with the light on it as it shines for him, his arguments seem conclusive; but stand around and get a view with a brighter light, and you shall see the error which Mr. G. is laboring under.

First, does Mr. G. allow due credit to the average bee-keeper when he says that grief will follow the adoption of my suggestions in hive-making? Surely, I am in great error if I am wrong in thinking that the successful keeping of bees calls for a higher degree of intelligence than do most other pursuits. I draw from that belief on my part the conclusion that one who can not make his own hives (granting that he has time and inclination) successfully, will not succeed with bees in any sort of hive.

Mr. Greiner says of himself that, though a mechanic of indefinite skill, he can not make good hives. I cheerfully grant to Mr. G. the privilege of standing as an exception to the rule enunciated in the preceding paragraph. My advice is not for him, nor for others like him, but for the thousands of lesser bee-keepers who are willing—nay, anxious—to make their own hives, and who only look for the simplest and cheapest method which will yield good results. Fully believing in the cheapness and ease of my own method, and in the resulting hive when the method is faithfully followed, I am eager to uphold it against every onslaught.

Mr. Greiner inveighs against the annoyance of pulling all sorts of boxes to pieces, and the general mix-up of lumber which will follow. No, Mr. G., I do not approve of trying to make a hive out of nothing, nor even out of any kind of cast-off box. I strongly advise a careful selection of boxes before even pulling them to pieces, for it would be folly to pull to pieces a miscellaneous lot of boxes and pile the heterogeneous boards together. Such procedure would be too much for even my patient puttering. But by a careful selection of boxes, governed by the length, width, and thickness of boards, one can, if he will plan methodically, make hives easily and satisfactorily.

A cross-cut and a rip saw overcome the difficulty of length and width when such are not right, but thickness offers a real obstacle. In my article on page 74, I suggest a remedy which is easily applied. The use of narrow strips of building paper under boards which are too thin is a simple process quickly carried out. Is it possible (I am forced to ask myself at this point) that Mr. Greiner criticised my article after only a general and rather hasty reading, prompted to reply by a natural aversion to such advice? Surely, a careful reading would show that in more than one particular I have expressly met the difficulties which Mr. G. brings up in his arguments.

What canons of architecture apply to hive-making I do not know. I remember that our good Prof. Norton, at Harvard, used to say that architectural forms should subserve the use to which the completed whole was to be put. Those are not his words, but they convey the idea. Possibly we might place efficiency as the rule which one could apply to the architecture of bee-hives. If a hive meets this most important of all requirements, then just so far is it beautiful.

Mr. Greiner's statement about photographs of apiaries, once more opens to me the opportunity to disclaim against the prevailing notion that hives must tilt forward, also the notion that there is no cover but must be held down by a clumsy stone. Let Mr. G. select two other judges, and then let the three pass judgment upon the photographs which have adorned (?) the front cover of the American Bee Journal during the year 1906. The cover of Jan 25th number shows part of my own home apiary, taken from an elevation so as to bring into view more hives. Hives are perfectly upright, covers stay on of themselves, and hives are as much alike as any other twins. The hives may not be as geometrically exact individually as a lot of dovetailed hives, but collectively they are *all right*. Mr. Greiner, the appearance of an apiary does not so much depend upon the individual hive as it does upon the orderly arrangement of the hives, and upon the absence of unnecessary clutter.

I emphatically deny that I have underestimated the need of uniformity in bee-fixtures. I assume, and I think rightly, that an intelligent bee-keeper can make his own hives and have them uniform. I wish to say that I approve of Mr. Greiner's argument about uniform covers, and reject with scorn the implication that my lips would say: "Pretty small affair," etc. Does Mr. G. think that the covers on the 50 home-made hives in my back-yard can not be manipulated as he describes? Mr. Greiner's allusion to covers was most unfortunate, for every one knows that no part of the factory-made hive has given more trouble than the cover; though it might truly be said that the cover is hard-pressed by certain other parts in the race for infamy. Even though an apiarist buys all his hives, it would pay him well to make covers such as I describe in the article under discussion, to use in conjunction with the cover which comes with his hives. It needs scarcely be said that this could be done only with the flat cover.

Is it true that factory-made hives are so very exact? I have put together hives sent out by two of the foremost firms in the country, each of which firms claims for its goods perfect workmanship. Well, Mr. Greiner, and my other readers, I have never found the exactness which the article on page 963 claims for such goods. Two causes bring about this inexactness:

In the first place, a machine will not do any better work than it is set to do, and a human being adjusts the machine. Moreover, most parts of the bee-hive, though got out by machinery, are more or less subject to the muscular action and the eyesight of the man running the machine. Hence, many parts are not exact.

In the second place, rarely is the lumber used by supply manufacturers uniformly seasoned, nor of uniform texture. Yet all goes through the same mill. Result is a shrinking of this part, and a warping of that, and when the parts are assembled, and the hive nailed together, the finished job is not good. Talk about 1-32 of an inch! I have seen parts of hives put out by these firms which fell 3-16 of an inch away from accuracy. In my self-made hive I am not satisfied with results less accurate than the best work turned out by the manufacturers.

Permit me to enumerate the points in a hive where accurate uniformity is essential:

(*a*). Hive-bodies must be such that one will fit another when placed upon it. My directions meet that requirement.

(*b*). Inside length must be such that proper bee-space is left at end of frames. My hive meets that requirement.

(*c*). Width inside should be determined and adhered to. My hive admits of that. Factory hive is still on the fence of uncertainty.

(*d*). Depth inside should be such as to allow proper space below frames. Here again my hive surpasses the factory-made hive. With the double wall of my home-made hive, the boards being put in with grains of the two walls crossing, there is no change of depth brought about by shrinking or swelling. Can this be said of the usual factory-made hive?

(*e*). There must be a bee-space between the super of sections and the frames below. As I recommend an outer upper story with thin section-case inside, it will be seen that the last-mentioned bee-space will not be dependent upon the structural accuracy of the hive, but of the super or of the honey-board. My own section-super has a bee-space below the slats—the proper way, I think.

(*f*). Covers should be made to stay on, to shed rain, and to be interchangeable. My telescope cover, as described, meets all those requirements. I have absolutely no use for a cover which depends upon bee-glue to make it tight, upon a stone to keep it in place, and upon chance to shed rain. "Don't, don't," my friends, let Mr. Greiner encourage you to further toleration of such a nuisance.

In closing his argument Mr. G. mentions the matter of saving of time through easy manipulation. I am with him here, heart and soul, and would "go him one better." Not only should we make manipulation easier, but we ought to do away with about three-fourths of even this easy manipulation. Let the bees alone more.

Heretofore I have largely devoted my attention to meeting and controverting what Mr. Greiner says. I should like a little more space to emphasize what Mr. G. says nothing about.

The hive which I have described, judged from what it does and the requirements it meets, is better than any factory-made hive now on the market. The paper covering, the double wall, the splendid cover, the slanting bottom, the warm super, etc., put it ahead of all hives judged solely from a utilitarian standpoint. No supply-dealer would get out such a hive to sell at a price within the reach of most of us. That hive made of new lumber, etc., could not, judging by catalog prices of other hives, sell for less than $4 or $5.

Let no one who can not use a square, who can not saw to a line, who can not nail two boards together with edges flush, attempt to make his own hives. But let those who can do all those things make hives according to my directions, and he will live to bless the American Bee Journal for publishing that article on page 74.

Bee-Keepers' Wheelbarrow—Shaking Bees Off Combs

BY R. M. M'MURDO

In Gleanings for Oct. 1, Mr. William Lossing describes an automatic cover to attach to a "Daisy" wheelbarrow. It is a good thing, I am sure, for, just as he says, "the canvas or sack takes up double the time," and is an everlasting nuisance.

Here, also, is something (perhaps not as good as his), but is very simple, works well, and is not patented:

First extend the bottom of the wheelbarrow so it will accommodate two 10-frame supers; nail a ⅜-inch strip all around this so that the edges of the super will rest on it exactly. Now wax the bottom so as to make it honey-tight. Make a hole in the lowest part, and attach a tin of some kind underneath the wheelbarrow to catch the drip. Have this so it can be moved and emptied, or arrange some kind of stopper for it. For the top I used 2 escape-boards with the bee-escapes covered, a ⅜x⅞ inch strip between these, with 2 slim nails that go down through the middle of the strip and *between* the supers, and hold it in place. Now get 2 good pieces of leather and hinge the tops to this strip so that they both open towards each other. Line the underneath side of these tops with some kind of felt. With this I can carry 4 supers if I like. And when I get in the honey-house I can lift the top clean off, or open one side at a time.

I would like to ask the supply-dealers why they do not have a wheelbarrow made especially for the apiarist. The "Daisy" is a very nice, handy tool; but I should think one with a bottom large enough to accommodate two 10-frame supers, with the front board coming up at right angles to the bottom, and a wheel a little bit larger so that it would stand level, would be an improvement, and still just as useful for other things.

SHAKING BEES OFF HONEY-FRAMES.

Permit me to say a few words in regard to shaking bees off frames of honey. I have shaken a good many, and tried all the different grips advanced in the bee-papers—some with sad disaster. An 8-pound frame has to be handled slightly carefully. I find taking them out by the projectors the most convenient way, and, when shaking, I relieve all the strain possible off the projections by pressing against the side-bars. I put the staples at the bottom of the frame, so they are out of the way, and I find it works to perfection. And in nailing up the frame I put an extra nail down through the top. The new metal-spacer that fits over the top of the frame must add greatly to the strength of the projections; but for extracting I would not have any metal about the frame.

The great advantage of the Hoffman frame (which we can not appreciate until we come to extract) is the wooden self-spacing device. It has no use in the super, it is true, but very essential below to keep the frames in order, in case any of the upper frames have been fastened down to them with wax, which sometimes happens. But what I am trying to get at, is the secure grip that these spacers give you on a full frame, when lifting it into the extractor, and for the knife to stop against, instead of against one's hand, and getting a cut, which happened to me occasionally with the other frames.

I think the Hoffman frames are all right except for the wedge system, which I would not have in mine if I could help it.

Canto, Cuba, Nov. 7.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

Keeping Queens.

If I understand W. H. Laws, on page 829, his best way to keep queens 21 days is practically a small nucleus with no entrance. Reasonable plan. His bad experience is capable of being overrated. The colony would have fed about as many, probably, and starved but few, had they been given but 15 or 20 instead of the 40 he overwhelmed them with.

"Independent Movements."

Independent Movement, eh? Well, independence is a good thing. We seldom have too much of it. Still, there *might* be independence of the old despot (real or imaginary), and, at the same time, slavish submission to a new one—especially if you went into the new one's warmth and shelter, and ceded him power to kick you out in the cold just when outside temperatures ranged very low.

That's not what I would say if I were just talking to a friend instead of writing. Just listen at the wireless telephone and see if you can't hear me talk. The American Bee Journal, and Gleanings, and Review, with their editors, and Dr. Miller, and Mr. Doolittle, are pretty prominent. They are hardly to blame for being so. I fear that the envy of less prominent papers and folks counts too much in some directions—starts needless moves, and hinders needful ones. For all that, my weeping spells are quite short when I think of the society organized to advertise honey, and how the independence of the brethren "busted" it. Page 829.

Cork Chips for Bee-Floats.

Glad to hear that cork chips for bee-floats have triumphantly stood the test of a season's use under the eyes of Sister Wilson. Page 832.

Temperature of a Bee's Thorax—Keeping Dealers Out.

I wonder. How ever, Mr. Getaz, did they find out that the temperature of the bee's thorax is always a little higher than that of the abdomen? I suppose chemical action develops heat, and also that the point where force is developed is a point where heat appears—so that the heart is also a furnace. In the bee the circulatory organs most resembling the heart might be expected to furnish heat. But are those organs very much more in the thorax than they are in the abdomen? And heat arising from chemical action, I should expect more of that to be in the abdomen than in the thorax. So I'll say, Eat one grain of salt with this, lest it prove another of those mistaken must-be-so's that occasionally afflict us. There! I forgot that heat from the muscular force of flying could not readily get into the abdomen.

As to keeping the dealers out of apicultural societies, I'll agree with Mr. Getaz, *theoretically*. But, practically, and so far as we have gone, would we have had any societies worth mentioning if the dealers had all been kept out?

Cells for Superseding or for Swarming?

Guess Mr. Taylor, on page 839, is right, that you can get an *inkling* of whether bees are building cells with intent to supersede or with intent to swarm. Cells for the former purpose usually all in one batch, for the latter purpose in several successive batches. Also fewer in the former case, more in the latter. I suspect, however, that the swarm preparations of some one excellent colony may be with very few cells—fewer than the superseding preparations of some other colony.

Traveling By Flying Machine.

So traveling by flying machine affords too little opportunity for enquiring the way. 'Spects that must be so—and it's bad, sure. Got to keep going at a high rate of speed, and it's not comfortable to be in total darkness as to the wheres and the whithers. And Baron Lieawful has given us this time the most delicate and bubbling-over-with-fun piece of apiarian humor that has appeared for a long time. Page 835.

Honey-Vinegar Making.

Aldehyde, an intermediate substance between alcohol and vinegar. Sadly fear that most people don't know there is such a substance. Very volatile, and liable all to get away, ruining the strength of the vinegar you are trying to make. So the vinegar-maker has to work in two opposite directions at once—expose to oxygen the most possible, and expose to evaporation the least possible. And if you have any notion of vinegar-making, be sure you read the paper of H. M. Arnd, on page 838. One doesn't find such practical and minute directions every day.

Hive on Bottles to Circumvent Moles.

That everlasting nuisance — the mole! Although he won't let a hive stay level on 4 bricks, I think the scheme of setting a hive on 4 long bottles, deeply set, pretty nearly defeats him. Page 839.

City Mating of Queens.

Mr. Abbott's experience at mating queens deserves more than a passing notice. In the city (St. Joseph) nearly all queens mated with their own stock. In the country, 2 miles out, nearly all mated with some other stock. Buildings and other conditions of a city would seem to shorten very much the flights of queens and drones. Worth while for some one to experiment on this in some other city. Page 839.

Shipping Comb Honey.

And the regulation, always-to-be-given old direction to ship comb honey glassed and visible, now finds no one to stand up for it. Now it's ship it packaged just right for two men to carry—always avoiding most decidedly any package which one man can pick up and throw. Page 845.

Why Bees Do Better.

If not brand new it's certainly not worn out — the problem why bees moved a few miles about fruit-bloom time always do better than just such ones on the ground, and consequently not given any wagon-bouncing? First answer would naturally be, "It's a mistake—mere casual and accidental circumstance." Too many, and too weighty, bee-men vouch for it as a fact to get out of it that way. Best answer seems to be that keeping them excited and stuffed with honey for some hours causes a greatly increased amount of brood to be started; and that just at that time more brood proves to be very profitable to the colony. I'll add one more solution to those given on page 844: It's imaginable that unmoved colonies incline to get into a rut as to the territory they visit—fail to prospect as far as they might, and neglect (possibly) some territory near by, just because never in the habit of going there. Bees set down in a totally strange location of course do a big job of prospecting immediately—may get familiar, and keep familiar, with more and better fields than the others do.

Our Bee-Keeping Sisters

Conducted by Emma M. Wilson, Marengo, Ill.

Feeding Pollen Substitues In a Barrel

Here is something of interest to the sisters who feed the bees some substitute for pollen in the spring. Mrs. A. L. Amos says in Gleanings in Bee Culture:

> "Apropos of this meal-feeding, I think I have struck quite an improvement on the shallow pan usually recommended. There are objections to that here. We are seldom without a good, stiff breeze that can blow the meal, if not the pan, and the place is overrun with these alert foragers, the White Leghorn chickens, which are good at finding meal-pans; so this spring I feed in the bottom of a salt-barrel. I feed corn-meal and flour, and the bees have used a lot of it. The same meal does quite a while. I sift flour over the top, and stir lightly. I leave the barrel out, simply turning a galvanized tub over it at night or during rain. It has been eminently satisfactory to me and the bees."

"The Top of a Section"

The following paragraph is taken from the British Bee Journal:

> "I have always been accustomed to see sections," says J. A. Green, "with the lock-corner down, and it came as a distinct surprise to me when another bee-keeper asked me, in sober earnest, why I put my sections in the supers upside down. It seemed he had been always accustomed to the other way."
>
> Well, that is just my experience, too. I think placing sections with the lock-corner up is the correct plan. I don't know if I have any other than a woman's reason: "I think it so, because I think it so;" but I certainly look on it as the natural position. I wonder if others here take a contrary view.

This was written by Mr. D. M. Macdonald, and as he hails from Scotland, it may not be the easiest thing in the world to convince him of the error of his views. The present writer, however, having just as much Scotch blood as Mr. Macdonald, and withal being a woman, has just as good right as he to give a woman's reason when stubbornly insisting that the lock-corner should be down. In this case, however, a woman's prerogative to insist upon a thing without giving any reason will not be insisted upon.

In the first place, the lock-corner is more easily pulled apart than the other corners. As there is more danger of the top-bar being pulled apart than the bottom-bar, it is desirable to have the weakest corner at the bottom. The lock-corner is more likely to be daubed with propolis, and should be kept more out of sight.

Sometimes it happens that the lock-joints do not make a perfect fit, and are inclined to spring apart. If such a lock-corner be at the top there is nothing to hold the top-bar down, but if it be at the bottom, the pressure of the side parts will hold it down, and when filled it will be all right.

Lastly, and in the eyes of a woman the most important thing, a section does not look so well with lock-corner up. Mr. Macdonald may insist that this is a matter of taste, and that to him the lock corner looks better than the solid corner. In that case he should have the top-piece sections so as to have both upper corners locked, for a section with one of its upper corners locked, and the other plain, looks too much like a woman with her hat on crooked.

In a later number of the British Bee Journal, L. S. C. gives as a reason for placing the lock-joint at the top, that "the comb is better attached to the upper sides, and there is less risk of its parting company." In this locality we don't have any trouble of that kind, for we use bottom starters, making the comb well attached to the bottom-bar.

Bees and Red-Pepper

To the Editor:—

Can you explain the following?

Yours very truly,
Edward F. Bigelow.

Dear St. Nicholas:—There are a great many dogs around my home that dig up the flower-beds. To prevent their doing this, mother sprinkled red-pepper over the places where the seeds were planted. She did it in the morning, and when I returned from school at half past three the ground where the pepper lay was covered with honey-bees. It was early in the spring, and I had not then seen any bees around. I should like to know why the bees came after the pepper.

Alice P. Garwood.

Women being mostly interested in the case, the foregoing letters have found their way into the Sisters' corner. It is no wonder that a woman bright enough to think of sowing cayenne pepper to keep dogs from digging up the ground should be inquisitive as to the presence of bees where dogs would not want to come.

The first thought likely to occur is that something sweet, perhaps rinsings of a molasses jug or something of the kind, had been thrown upon the ground; yet people don't generally throw slops where seeds are sown. There is, however, no impossibility in the case, but consultation with one who has some knowledge of bees and their ways suggests another explanation.

It will be noted that it was early in spring, and these were the first bees seen around. When bees first fly in spring, one of the places they are likely to be seen is upon the sawdust at a wood-pile, busily digging away at it and seeming to make it take the place of pollen. They also have been known to work upon fine coal-dust, and perhaps other material that one would hardly think could take the place of pollen. Is there anything impossible about their using the fine pepper-dust the same way? Has any one a better explanation?

Pacific Coast Murmurings

"GROVES" OF SWEET CLOVER.

So Kate Douglass Wiggins has been soaring into airy fancies about bees! I wonder if she would know a bee if she should see one. Perhaps little "Patsy" could tell her. As I never fancied the irrepressible lady-writer from the Pacific Coast metropolis, I never lost any time or sleep perusing her stories. Thanks, however, to Miss Emma Wilson for calling attention to the sentence from one of the former's recent fictions (page 785). Miss Wilson is charmed with *our* Kate's "mellifluous sentence." But, please excuse me, I am not so well pleased. Perhaps it is because Kate is not one of my sisters.

Let me quote a portion of the sentence in question: "Back of the barn ......was a grove of sweet clover whose white feathery tips," etc. That's sufficient, for if there were more of the same stuff I should surely have a fit of that "tired feeling." Who ever saw a grove of sweet clover? But, by Jingo, wouldn't it be immense if sweet clover grew in great, gigantic groves like the big trees of Mariposa, in California, and their "feathery, flowery tips" flowed nectar as full and freely as a fire-plug after freezing weather was past and gone! Joy would be the lot of the bees, as the mellifluous mess came tripping to their honey-receptacles. But gladder still would be the heart of the bee-man as the hives would overflow with the abundance of forest-grown clover nectar. Just think of it, I say, *groves* of sweet clover honey, and it coming in so fast that buckets and tanks could not hold it! Our dear old friend, "Uncle Novice," to mix his name a little, in his halcyon days, never dreamed of such flows from the basswood and buckwheat sources of supply, as would come from the aforesaid "feathery tips" of a hundred-acre grove of sweet clover. The thought is a feathery one, indeed, and gives us a fanciful flight of bee-misinformation.

Oh, Mrs. Wiggins, I did not think that a former San Francisco girl, one reared in the great land of milk and honey, would make such a bee-bull as you did in this one sentence. Perhaps you tried to write too mellifluously. Try mixing a little honey with your ink the next time you tackle things bee-cultural.

And, further in the same sentence, you mention "banks of aromatic mint and thyme." What a fine soothing syrup the things mentioned in this one sentence would have made for poor, dear little "Patsy." I'm fainting. Pass me the smelling salts, please. Now, don't say I'm womanly, for I'm not.

PEPPERY HONEY.

Mustard honey may be good for a backache, but I doubt if it will touch the spot if it is secured via the nectar-glands of flower and bee. Honey and mustard mixed is pretty hot stuff, and may be eaten with some degree of safety in small quantities with sugar-cured ham. In California large fields of mustard are grown for the spice-mills, and merry is the hum of the bee on the golden heads of bloom. It is a good early honey-plant, but the nectar is not so peppery as one would imagine, at least such is my experience. The native mustard, and a species of rape, are among the earliest flowers to bloom in the Golden State—these are out in December and January, and the fields are just yellow with them in February.

OVER-SHADED BEES.

"Too much of a good thing" is bad for man and beast, and insect, too. In a hot climate, as is to be found in some portions of California, it is advisable to provide shade for the bees, that the hot rays of the sun won't injure the comb and bees within the hives, and shade may be secured by other means, such as sheds, hedges, fences, wide hive-covers, or by placing the colonies under the protecting branches of trees. Recently I discovered a bad case of too much shade of the latter sort. It was at the University of California, in Berkeley. At the end of Telegraph Avenue—the main street connecting the Varsity town with Oakland, 5 miles distant—is a nice, romantic bridge crossing Strawberry Creek, the southern boundary of the college grounds; and just as one sets his foot on the bridge, if he looks closely among the trees to the left, or the Golden Gate side, he will notice a small apiary down on the ground beneath the trees and close to the creek's edge, where the hum of the bees play a low accompaniment to the murmur of the brook below. But the shade of the oaks, bay-trees, and black "pottishmiums" is far too dense, so much so that the bees find it hard to make their way to the hives, and, verily, sometimes we have to believe that the learned professor does not know everything. Just let in a little more sun, professor, to gladden the poor bees. How would you like to be kept in a cellar?

Southern
Beedom

Conducted by LOUIS H. SCHOLL, New Braunsfels, Tex.

'Don't Become Discouraged

There is much good and truthful advice in the following, clipped from the Dallas News, that I give it here, and for the reason many persons who would otherwise suffer by disposing of their bees only because a bad or an off year kept them from giving paying returns. Instead, it would pay to feed if the bees need it, for we know of many instances where only a few dollars' worth of sugar made into syrup and fed to keep the bees over, resulted in large crops of hundreds of dollars the next season. Just as Mr. Smith says, it is an old saying with the Texans, that "three bad years never follow in succession:"

It has been an unusually hard year on bees almost throughout the State of Texas, and many of the less enthusiastic bee-keepers have given up the business in disgust, saying, "There is no money in bees, and it doesn't pay to fool with them." A good many are offering to dispose of their bees and fixtures at a sacrifice. This, my friend, is not good business judgment. Stick to your bees, and feed them if necessary this fall to carry them through the winter. Remember, we seldom ever have two short crops of anything in succession in this grand old State of Texas, and the very next year is almost sure to be a bountiful year for honey and bees.

So let us not become discouraged at our short crop of honey and dispose of our little faithful pets and workers at a sacrifice. I believe it was Josh Billings who said in giving good advice to his son, Remember the postage stamp, my son, and stick to one thing until you get there. Many of us have only very light honey crops this year, but the quality is good, and it is no trouble to find a ready market for it. So perhaps the poor season for bees will have a tendency to weed out the poorer grade of bees as well as the happy-go-as-you-please kind of bee-keepers that give their bees little or no attention, and may prove a blessing in disguise after all. It will give us a chance to select our best colonies to breed from, and this is very important with bees the same as with poultry or any other domestic stock.

Bees are unlike our other stock. We breed bees only for one purpose, or at least we should breed them for only one purpose, that of gathering honey. So in selecting our breeding stock we should select those that come up with the heaviest and fullest supers of honey. No difference what kind of bees we have, if we will continue to breed from the best and follow this up year after year, we will surely make a big improvement over our present stock and ways of breeding.

Don't misunderstand me now as trying to teach you that there is no difference in the different races of bees, for that is not what I am trying to teach you, for I know there is as much difference in pure Italian bees and our little native or black bees, when it comes to gathering honey, as there is in any of our fine stock of horses, cattle and hogs over the common scrubs of long ago. What I was trying to teach you is this: If you will not stock your bee-yards with fine bees, then improve the bees you have, as suggested above, for the best is none too good for us who believe in improved stock. L. B. SMITH.

Rescue, Tex.

Is Bee-Keeping Moving Toward the South?

At this time of the year there are usually many inquiries from bee-keepers in different sections, who are contemplating changing locations, and many of these inquiries come from the North. Surely, bee-keeping is moving toward the South.

There are some seekers who move into a new section, and, not knowing anything about the honey-flora, will locate where there are but few honey-plants, and even if there is abundance, it may yield inferior honey. The question is, How should bee-keepers locate? By correspondence with some reliable bee-keeper already located in the desired section. But the inquiry is often returned with the statement, "If you are doing anything, you would better stay where you are." In some instances there may have been some good reasons for a reply like this, but there have been too many such replies for the good of our industry in some sections here in the South. There are many good, honest bee-keepers who have sufficiently tried their locations, and they would not justify the spreading of the business to the extent of a livelihood. We are glad of the possibilities of our industry, and those who desire to pursue it can find locations which will warrant a living, if intelligently pursued.

Inquiries from bee-keepers desiring locations in the Southeast, for the last two seasons, have been many. The possibilities of bee-keeping in the Southwest have been better known to the bee-keeping world in the last few years than in the Southeast. Therefore the bee-keepers have located there mostly, and made it a great bee and honey country. But what of us? We have been prospecting from place to place and waiting for the great pine forests to be lumbered and our section made better for the bee-industry. This has been done, and it has begun to boom, and the prospects are all that could be expected.

Now about locations. The idea seems to prevail to locate along large streams or in or near a very dense swamp of miles square. It is a fact that our best honey-plant is found on high land or along branches and creeks. Also a person's health is better on higher sections. An ideal location is around or near a small town which will consume several tons of honey, and in which the apiarist can live, give his children the best educational advantages, and bring them up in good society and yet live among his bees. There are many locations. The writer has such a location and is well satisfied.

In conclusion, let me say that I have not written this to boom bee-keeping here, but to answer inquiries which have and will come to my desk before next season; also to throw some light on apiculture in the Southeast.

Crisp Co., Ga. J. J. Wilder.

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to
Dr. C. C. Miller, Marengo, Ill.
☞ Dr. Miller does *not* answer Questions by mail.

Little T-Super Sticks

1. I believe the T-super is a good, handy super when once getting it correctly made. What are those little ¼x3-32 sticks that you speak of on page 783? I do not understand these figures, and what the sticks are for, unless they are used to fill the space between the sections that the T-tins form.

2. Do the supply-dealers make these sticks?

Wisconsin.

Answer.—You are right in your supposition. There is extra space in the length of the super, and for two reasons. One is that a little space is made between the sections by the T-tins. Another is that it would be exceedingly difficult to get the sections into the super if they were a tight fit. The little sticks fill up the vacant space. Sometimes only 2 are needed, and sometimes 3. You can get along without them, but the bees will fill glue in the empty spaces, and, besides, the sections are more true and square if wedged up. Probably any manufacturer of supplies would make them.

◆

Wintering One Colony Above Another

I am a beginner and have 2 colonies here at the house. One became queenless after swarming. I introduced a new queen successfully, but left the colony weak. The other colony, a strong, heavy one, carried its dead queen out on the alighting-board, Nov. 20. I put the colony on top of the weak one, with a paper between in which I cut a hole big enough for one bee to pass through. The first and second day they were aroused quite a little; that is, the queenless colony, but now they are quiet. They did not arouse the lower, weak colony. I have them packed in a big box. Can I leave them standing on top of each other till spring, or how else will I have to treat them? The lower box has only 6 frames. What is to be done in spring with them? I had the queen in a warm room and and she still showed a faint sign of life 2 days after they carried her out. She was a queen reared by the bees after swarming.

Indiana.

Answer.—Probably it will be all right to leave them just as they are, for most likely there is no queen in the upper hive, and as soon as the weather gets warm enough the bees will unite at their leisure without any interference on your part. I said *most likely* there is no queen in the upper hive, for there is a bare possibility that when the queen was carried out, Nov. 20, that the bees had superseded her and had a younger laying queen in the hive. So as soon as the bees get to flying in the spring and start brood-rearing, it will be well to see whether there is brood in each story. If so, then you will separate the two hives so as to save both queens, or at least put a queen-excluder between the two stories till you do separate them.

◆

Taking In Outside-Wintered Bees to Look After Them

In wintering bees outside and noticing a certain colony acting so very differently than the rest as to demand prompt attention, it being one of my best colonies during the summer; also the weather being so cold outside as to make it unwise to open it on the stand, and with no prospect of a day warm enough for the purpose, what harm would there be in taking the colony into a room in the house now, or say at any other time during the winter, and looking after it? Will the bees settle down in the hive again by nightfall so that I can place them on their stand again?

New York.

Answer.—By taking sufficient pains you can take a hive of bees into a warm room at any time in the winter and open the hive. The trouble is that the light and heat will stir the bees up so that they will fly out of the hive and settle elsewhere, especially on the window. There will be less of this if the hive be opened about dusk, for *you* can see in the evening when it is too dark for the bees to see; and if handled very gently at this time of day they will be little inclined to fly out. Then if the room be allowed to cool off, the bees will be all quiet before morning. If any have gone to the window, they can be got back by means of two pieces of shingle or pasteboard.

Please understand, however, that it is not in general advisable to open a hive in a warm room in winter. You can hardly do it without stirring up the bees more than is good for them. Just now I don't think of any reason there would be for it unless the bees should be short of food; and it is not necessary in that case. If anything else is wrong, it will probably be better to let the bees alone till a warm day in spring. Still, as already intimated, the bees can probably stand it to have their hive opened if you can't wait.

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New York.—A series of Bee-Keepers' Institutes will be held in New York State as follows: Amsterdam, Dec. 10; Syracuse, Dec. 11; Fulton, Dec. 12; Gouverneur, Dec. 13, 14; Auburn, Dec. 15; Romulus, Dec. 17; Geneva, Dec. 18, 19—State Convention. Mr. Chas. Stewart, of Sammonsville, N. Y., has been engaged as Institute Speaker. Mr. Stewart is one of the State Bee-Inspectors, and has shown a great interest in the welfare of the bee-keepers of the State.

Romulus, N. Y. C. B. HOWARD, Sec.

Michigan.—The Michigan State Bee-Keepers' Association will meet at Big Rapids, Dec. 25 and 26, 1906, the meeting opening on the evening of the 25th and continuing through the next evening. We are working to make it the best attended convention we ever had. Low rates on the railroads.

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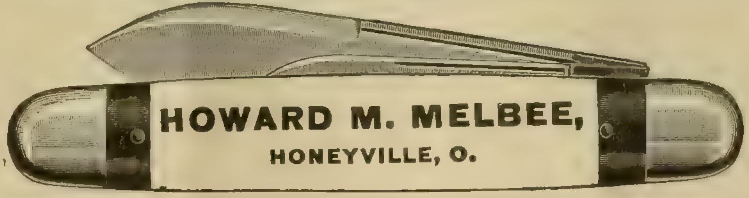

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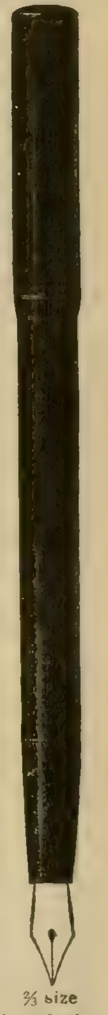
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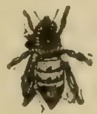
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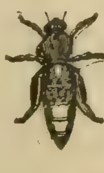
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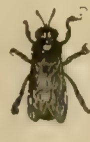
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A B C of Bee-Culture, by A. I. & E. R. Root.—A cyclopedia of over 500 pages, describing everything pertaining to the care of the honey-bees. Contains about 400 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00; in leatherette binding, 75 cents.

Bee-Keeper's Guide, or Manual of the Apiary, by Prof. A. J. Cook, of Pomona College, California. This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroughly practical and scientific. It contains full delineation of the anatomy and physiology of bees. 544 pages. 295 illustrations. Bound in cloth. 19th thousand. Price, $1.20.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.20.

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Forty Years Among the Bees, by Dr. C. C. Miller.—This book contains 328 pages, is bound in handsome cloth, with gold letters and design; it is printed on best book-paper, and illustrated with 112 beautiful original half-tone pictures, taken by Dr. Miller himself. It is unique in this regard. The first few pages are devoted to an interesting biographical sketch of Dr. Miller, telling how he happened to get into bee-keeping. About 20 years ago he wrote a small book, called "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters, and shows in minutest detail just how Dr. Miller does things with bees. Price, $1.00.

"The Honey-Money Stories."—A 64-page-and-cover booklet, 5¾x8½ inches in size, printed on best quality paper. Many short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each ocupying a full page, but in different parts of the booklet. It has in all 33 fine illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and "The Bee-Keepers' Lullaby." This booklet should be placed in the hands of everybody not familiar with the food-value of honey, for its main object is to interest people in honey as a daily table article. Price, 25 cents, or 3 copies for 50 cents.

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Honey and Beeswax

CHICAGO, Dec. 7.—There is the usual dullness in the honey-trade at this date owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hands of the trade generally are below the normal; hence prices are firm at 15@16c for No. 1 to fancy white comb, with off grades at 1@2c less; amber grades dull at 10@12c. Extracted white, firm at 8c for clover and basswood; ambers, 6½@7½c per pound. Beeswax, 30c.
R. A. BURNETT & CO.

KANSAS CITY, Dec. 6.—The demand for comb and extracted honey is good, receipts light. We quote: Fancy white comb, 24 sections, per case, $3,25; No. 1, $3.00; No. 2 and amber, $2.75. Extracted, white, 7@7½c; amber, 6½@7c. Beeswax, 27c.
C. C. CLEMONS & CO.

CINCINNATI, Nov. 8.—The market on comb honey seems to be a little quiet; No. 1 sells wholesale for 14½c; retail by the case, 16c. Extracted firm; light amber in barrels, 6c; in cans, 7c; white clover, 8½c. Beeswax, 30c.
C. H. W. WEBER.

PHILADELPHIA, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission.
WM. A. SELSER.

NEW YORK, Dec. 3—Comb honey is in good demand, and No. 1 and fancy white stock seems to be pretty well exhausted. Buckwheat is in sufficient supply, also off grades of white, to meet all demands, but there is no overstock as yet. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12c; buckwheat and amber at 11c per pound, according to quality and style of package. Extracted is firm at unchanged prices. California white sage, 8c; light amber, at 7@6½c; buckwheat, 6@6½c. Beeswax steady at 30c.
HILDRETH & SEGELKEN

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DENVER, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Dec. 7.—The honey market is in a healthy condition, particularly extracted honey. the demand being better than one year ago. This is probably due to the excitement among those holders who are trying to inflate the prices. We quote amber extracted honey in barrels at 6@7c, according to the quality. Fancy table honey in barrels and 60-lb. cans at 8@9c. The demand for comb honey has decreased, somewhat, owing to the season of the year when the sale of that article suffers. Our prices of fancy white comb honey, in a wholesale way, is 15@16c. Choice yellow beeswax, 30c, delivered here.
THE FRED W. MUTH CO.

INDIANAPOLIS, Nov. 15.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
WALTER S. POUDER.

TOLEDO, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
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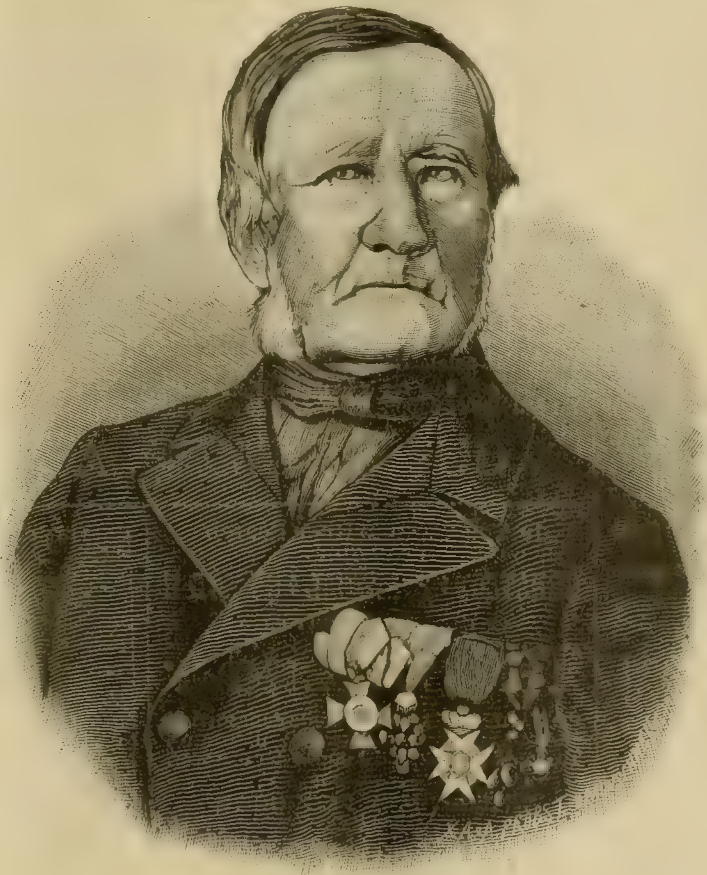
46th Year CHICAGO, ILL., DEC. 20, 1906 No. 51

Jan. 11, 1811 Oct. 26, 1906

From "Langstroth on the Honey-Bee."



The Late Rev. John Dzierzon, D. D.

(See page 1031)

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

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2d.—To protect and defend its members in their lawful rights.
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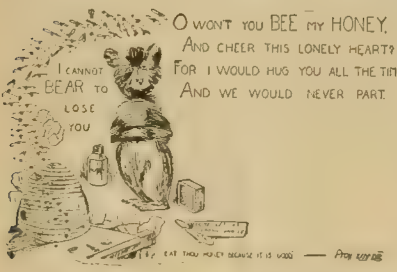
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The

Lion Engine

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Acting on the theory that "testing is proving' we will send any responsible person, on certain very easy conditions, one of our three h. p. gas or gasoline engines on **10 days test trial.**

This engine is **no experiment**, but has been proved by actual use to do any work (where the rated amount of power is required) in the most practical, reliable, safe and economical way.

This engine is of the four cycle type. While the engine is up to normal speed the exhaust valve is held open, allowing free circulation of fresh air in the cylinder. The igniter and intake valve are at rest, therefore are not using gasoline or the batteries.

Our igniter and mixer are of the most simple and reliable character. The gasoline is always properly vaporized and the igniter point never comes together unless a spark is required.

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EASY TO OPERATE

They are used for all purposes where power is required for operating private electric-lighting plants, small factories, printing offices; farm machinery, such as cream separators, feed-grinders, corn shellers, wood-sawing machines, etc., and for a thousand and one other purposes.

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Lyons Engine Co.,
Lyons, Mich.

Gentlemen: I am about to purchase a gas or gasoline engine for __________ purposes and wish you to send me full particulars about your approval offer as advertised in American Bee Journal. Yours very truly,

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R. F. D. __________

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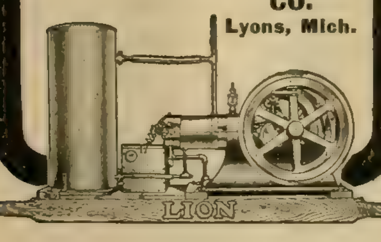
LYONS ENGINE CO.
Lyons, Mich.



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are not excelled for durability, fine workmanship, and practical utility.

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Quote us prices on Honey and Beeswax. Honey in 60-pound cans for sale.

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BEE-SUPPLIES

Root's Goods at Root's Prices. We carry in stock a complete line of goods used by bee-keepers. We also allow 4 percent discount on all orders received in December. Remember, the freight-rates from Toledo will save you money. Our large illustrated Catalog is free. Ask for it.

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A NEW YEAR'S RESOLVE

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* These dealers buy our goods in carload lots but supplement them with local-made goods.

THE A. I. ROOT CO., Medina, Ohio

CHAS. DADANT

AMERICAN WEEKLY BEE JOURNAL

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at $1.00 a Year, by George W. York & Co., 334 Dearborn Street.

GEORGE W. YORK, Editor — CHICAGO, ILL., DECEMBER 20, 1906 — Vol. XLVI—No. 51

Editorial Notes and Comments

A Merry Christmas we wish to every reader of the old American Bee Journal. And may each one live to enjoy many more Christmasses in the years to come.

◆

A Sweet-Eating Nation

This is what we are, if one may judge from the amount of sugar consumed in the United States during last year. It is 75 pounds for each person, according to the following paragraph taken from the Farm Journal for December:

> One billion one hundred and eighty-two million pounds of sugar were imported into the United States last year from our three insular possessions—Hawaii, Porto Rico and the Philippines. Of that vast quantity considerably more than half came from Hawaii, and only a small part from the Philippines. Nine hundred and fifty million pounds were produced in the United States proper. In addition to this we imported from Cuba, Germany, Dutch East Indies, Brazil and other countries, more than 3,000,000,000 pounds; the total consumption in the United States last year being about 75 pounds per capita, or more than 6,000,000,000 pounds, less than one-sixth of which was produced at home.

It does seem that if people generally knew how much superior honey is to sugar, that the former would soon take the place of the latter to a much greater extent than it does now. We know of no better way to familiarize the public with the excellent qualities of honey than through advertising. The National Bee-Keepers' Association has the opportunity of getting a whole lot of honey information in the newspapers at a very trifling expense. We hope it may soon be put into effect.

◆

New Pure Food Law and Honey

As probably nearly all of our readers know, we have a National Pure Food Law, which goes into effect Jan. 1, 1907. Mr. C. P. Dadant, President of the National Bee-Keepers' Association has this to say about it:

LETTER FROM C. P. DADANT.

Is the new Pure Food Law going to be of any benefit to the bee-keepers in their sales of honey? I can answer this question in the affirmative, and with emphasis. Allow me to state a few facts.

We have been producing honey—principally extracted—for nearly 40 years. In the early days of extraordinary production, there was much difficulty encountered in selling, because so many people were prejudiced against the granulation of honey. This prejudice still exists, but not in the same uniform condition as in the 70's.

Then glucose began to appear, and the adulterators plied their industry by furnishing a mixture which resembled honey, and did not granulate. An attempt was made to secure a pure food law, concerning the sweets at least. In 1880-82, petitions were circulated, asking Congress for a law. My father took the pains of circulating a special petition signed by bee-keepers, and secured some 10,000 names. This number would be small to-day, but it was large for that time. We were greatly encouraged in our efforts when we found that the honest sugar manufacturers were also working for the same end. But all this was of no avail, and the petitions were buried.

Many and many times we deplored the fact that there was no way by which we could drive the spurious honey from the market. But we have at last reached the goal. Just one instance will show it:

I number among my friends a wholesale grocer who has for years carried on a most successful and straightforward business. He was handling spurious honey, in years past. To all my representations he would say:

"We can not avoid handling this stuff. Our customers ask for it and others keep it. We can not help ourselves; but we make no secret of the fact that we know it to be impure. We would like to handle your product, but it is too expensive."

This year, the same person told me this:

"We are now happy to be able to say that we can handle your honey. In fact, we can not handle any but pure honey, and I am right glad of it. I have always disliked to sell anything that did not show plainly its nature. on the label. The Pure Food Law will cause trouble only to those who prepare these spurious goods, because it sets their business to naught. Give me your prices, and we will make an order. We may not sell much at first, but we know we need not fear the competition of a spurious article from our competitors in the wholesale grocery line, for they have to quit handling it also."

A few days later, we filled a large order for this firm. I asked how the goods sold. The reply was:

"This pure honey business is a little new. Some people object to granulation, but nothing can stand in the way, when we say that we have your guarantee, and are willing to add ours to it, as to the purity of the goods. Pure honey is going to sell, through the wholesale trade, as it never did before."

Those are the facts as I find them. Hurrah for the pure food laws! And although I have been for many years bitterly opposed to Prof. Wiley because of the big blunder he made with that comb honey story in the long ago, I feel quite willing to bury the hatchet, and forgive him for the part he has taken in securing this Pure Food Law.

C. P. Dadant.

We agree fully with Mr. Dadant in what he says in the foregoing. And we believe that there is a brighter day ahead for honey-producers, because of the increased prices they will be able to secure for their honey just as soon as the new Pure Food Law is enforced, so that honey will not need to come in competition with glucose and other adulterants which it has had to meet in the open market. Food products will have to be sold for what they are hereafter, and judging from what we have heard already, retailers are beginning to be mighty careful to know just what they are offering as honey.

Gleanings has done a good thing in preparing and publishing the following, which will well repay reading again if you have seen it before:

The New National Pure-Food Law; Its Provisions, Penalties, and Scope.

The Hepburn pure-food bill, one of the most important measures that ever passed Congress, became a law on June 30 of this year, but will not be in force until January 1, 1907. I have before me a copy of the law, and the rules and regulations applying to said law as they were prepared by the Secretaries of the Treasury, of Agriculture, and of Commerce and Labor. That the new law has "teeth" in it, can not be denied. It is going to do more to wipe out adulteration and misbranding than anything that has ever been done before in half a century. While in a sense it is restricted to interstate and territorial business, yet its *practical* working effect will be to prevent the dishonest food and medicine purveyors from doing business in *any State*, whether it has a pure-food law or not. No glucose mixer or adulterator, after Jan. 1st next, will dare put his goods on the market again; for if he does he is liable to run up against Uncle Sam in a way that will not only subject him to a heavy fine, but may put him behind the bars where he will stay for a time. It is a well-known fact that law-breakers are far more afraid of United States officials than mere State officers.

It is vitally necessary that every bee-keeper and honey-seller know something about this new law. Even honest men might inadvertently become entrapped; and it is important, alike for both the law-abiding as well as the would-be law-breaker to know what the law is.

In a general way it makes it a crime against the United States to misbrand or adulterate *any* food product, medicine, or liquor, without showing the exact contents on the outside of the package. In any State where there is no pure-food law one may adulterate and misbrand as before, *providing* his products do not go beyond the limits of that State. But the moment they pass beyond the border-line into another State he is liable to fine and imprisonment. There is where the rub is. Inasmuch as it would be impossible to do a strictly within-the-State business, the practical working effect of the law would be that misbranding and adulterating will have to stop on every foot of ground owned or controlled by any State or by the United States as a whole. The law goes further. One can not adulterate or misbrand goods that are to be used for export into a foreign country without taking fearful chances.

Penalties.

Any person who shall violate any provision of this law relating to an interstate or territorial business shall be guilty of a misdemeanor, and shall, on conviction, be fined not to exceed $500, or be sentenced to one year's imprisonment, or both; such fine and imprisonment to be at the discretion of the court. For each subsequent offense and conviction he shall be fined not less than $1,000, or sentenced to one year's imprisonment, or both, at the discretion of the court.

The penalty for exporting misbranded or adulterated goods will be $200 for the first offense, and $500 for a succeeding offense, or to be imprisoned, one year, or both, at the discretion of the court.

Guarantee of Purity Required.

A special feature of this bill is that no dealer in food or drug products will be liable to prosecution if he can show that the goods were sold under a guarantee of purity from the wholesaler, manufacturer, jobber, dealer, or other party residing in the United States, from whom purchased. It is proper to remark right here that it is very important that every purchaser of honey or beeswax secure from each wholesaler, jobber, or producer, that the goods purchased are guaranteed by him to be pure. In the event that it is found afterward that they are adulterated or misbranded, the presentation of this guarantee by the dealer will protect him, when proceedings will be taken up against the maker of the guarantee, and he, in turn, as I understand the law, can go back to the original producer, provided, of course, that he, in turn, is protected also by a guarantee of purity from said producer. As I understand it, this guarantee will not apply in any case where the original package in which the goods were received has been broken and the goods have been put into other packages.

It will come to pass that, before a sale can be consummated, a guarantee of purity will have to be furnished. When the examination or analysis shows that the food or drugs are adulterated, the dealer furnishing such goods shall be duly notified.

Procedure when Adulteration or Misbranding has been Detected by a United States Officer.

Section 4 of the law is liberal toward the suspected offender in that it gives him a chance for a hearing before the actual penalty is applied. When examination or analysis shows that he is possibly or probably guilty, notice is served to him or to the parties from whom he obtained the goods, or who executed the guarantee as provided in the law. A date is fixed by the Secretary of Agriculture, or such other official connected with the food and drug inspection service as may be commissioned by him for that purpose, when a hearing shall be held. Said hearing shall be in private, and shall be confined to questions of fact. If it be shown that a mistake has been made, the parties shall be discharged; but if it be shown that he is guilty, the fact will be published, and in addition the offender will be subject to the penalties already mentioned.

The adulterators of food products fear publicity more than anything else. They do not care so much about a small fine, but Uncle Sam has fixed it so that the law-breakers shall get a big fine, some free advertising, and, in addition, a free ride, perhaps, to prison. No wonder there was a tremendous glucose lobby present to kill or weaken the measure when it was before Congress. No wonder the liquor and patent-medicine people feared it.

Misbranding, or Labeling Honey as Coming from One Apiary that was Produced in Anotker.

Not only is it made a crime against the United States to misbrand an article of food by putting out a cheap substitute under the name of something better, as, for example, a glucose mixture for honey, but it will also be unlawful to sell a *pure* honey under a label showing that it came from some *particular* apiary when, as a matter of fact, it was produced in another. Let us take a concrete case: Mr. John Jones has purchased a lot of labels that read: "Pure Honey from the Apiary of John Jones." We will say he has produced 10,000 pounds of extracted honey. He has a right to use this label on all the honey *he produces* in his apiary or apiaries, *but on no other, however pure.* He builds up a big trade, and there is more demand for his goods. His 10,000 pounds of his own production is all gone. He goes out into the open market and buys more honey of the same source, no better and no worse than he produces in his own yard; but if he uses the same label to put out this honey he will be rendering himself liable, if I understand the law. It is true no chemist could ever show whether the honey bearing such labels was produced in his apiary or not; but other evidence might show a misbranding, and our Mr. Jones would be up against Uncle Sam in a way that would kill him before his old trade.

The law does not prevent him, however, from adopting a trade label of *wider* scope reading something like this: "Pure Clover Honey put up by John Jones." Under this label he may sell his own honey and that which he purchases. But, just the moment he buys a mountain sage or a pure basswood, and sells it under that label, he will be rendering himself liable again. If he desires to have a stock label that will apply to both white, red, and alfalfa clover honey he can use the words: "Pure Clover Honey put up by John Jones," for alfalfa is a clover the same as sweet or red clover. He might, in my opinion, without being liable, put up a blend of white clover and alfalfa; but if he desired to make a blend of clover and basswood or sage honey, he had better adopt the wording, "Pure Extracted Honey, put up by John Jones." In every case, when John Jones buys honey he will do well to require the seller to give him a guarantee of purity.

The law is very clear in making it unlawful to represent that a certain food product was produced in any particular State when, as a matter of fact, it came from another State. To illustrate, no more can Ohio cheese be sold as York State cheese. In the same way, Wisconsin honey could not be put up under the name of York State honey without rendering somebody liable.

Form of Guarantee.

As I have already stated, it is quite important that every bee-keeper, when he buys honey from some other bee-keeper, jobber, or dealer, make him give a guarantee of purity. The guarantee suggested is as follows:

I [we] the undersigned do hereby guarantee that honey or beeswax shipped, distributed, or sold by me [us] [specifying the same as fully as possible] is not adulterated or misbranded within the meaning of the food and drugs act, June 30, 1906. (*Signed in ink.*)

Our customers are asking us to furnish this guarantee, and we in turn are asking those who furnish us honey or beeswax to give us the same guarantee. No producer or jobber should hesitate to furnish such a writing: for the moment he hesitates, that moment his goods will be under suspicion.

General Effect of the Law.

There are many other provisions of this law; but those already given are the principal ones that relate to bee-keeping. Suffice it to say, its general provisions apply equally to all products, medicines, and liquors. No more can a medicine be sold under an innocent name and yet contain some powerful poison, *unless* the exact amount of such poison as well as other ingredients be stated on the label. Thousands of people have died as the result of liquor, cocaine, strychnine, and other deadly poisons administered in medicines having an innocent name.

The effect of this provision of the law is going to be to drive a lot of dangerous proprietary medicines out of the market. As soon as the dear public knows what these innocent-sounding medicines are, it will leave them severely alone, and it ought to.

This national pure-food law may rope in some innocent bee-keepers and other well-meaning persons; but it is their business to *know* the law, and Gleanings has taken this opportunity to inform them.

Every pound of honey that one buys of somebody else should be covered by a guarantee, else the purchaser may assume a great risk; and, further, the label shall not be misleading in any manner whatsoever.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

Miscellaneous News-Items

Mr. Frank Rauchfuss, of Denver, Colo., Manager of the Colorado Honey-Producers' Association, gave us a brief call last week when on his way home. He had been visiting in Louisville, Ky., and other cities. He reports a fair honey crop in Colorado this year, and that the Association of which he is manager continues to "do business at the old stand."

◆

An Irish Estimate of "Our Bee-Keeping Sisters" department, and its capable "conductor," is thus given by Editor Digges in the valuable Irish Bee Journal for December:

> The American Bee Journal is called in the States the "Old Reliable," and is one of those ever fresh, ever welcome publications that no bee-man worth a dollar and a half can afford to do without. Of that attractive Journal, one of the most delightful departments is that of "Our Bee-Keeping Sisters." It is conducted by Miss Emma M. Wilson, whose portrait appears in the title-block, and whose wisdom, and graceful treatment of a vast variety of subjects makes us sigh, from week to week, for the uprising in this old land of some bee keeping sister with like gifts of head and heart, to stir the silent sisterhood of European beedom.

◆

Mr. Morley Pettit, who, during the past year, has been conducting the Department of "Canadian Beedom" in this Journal, finds it necessary to discontinue that work on account of taking up another line which requires all his time and thought. The following letter explains the change more in detail:

> Dear Friend York:—Every once in a while there seem to be hard things come up for us to do, and I have met one of them now. Since I decided to go into the ministerial work I started studying and working along that line, and have found it more and more difficult to give "Canadian Beedom" its due. Formerly, a bee-paper—the "Old Reliable" or some other—was my constant companion for reading in spare moments. My work was bee-keeping, and my best thought was given to that business.
>
> Now it is different. The Conference of the Methodist Church has given me a circuit with 3 churches at which to hold services, and do pastoral work. This, with the fairly heavy course of studies which will cover 4 or 5 years, so fully take up my time that bee-papers remain almost unopened, and I find myself already out of touch with apicultural thought.
>
> In view of this I must, although very reluctantly, I assure you, give up "Canadian Beedom." I shall hope to contribute articles occasionally, but that may possibly be only a hope, as the new work seems to take practically all my thought.
>
> Yours very truly,
> Morley Pettit.

While we also regret the necessity which seems to require the giving up of "Canadian Beedom" by Mr. Pettit, we recognize the prior claims upon him of a higher call which he has received—a call to the work of the ministry. We can only wish Mr. Pettit the largest success in his chosen field of labor. He will be well equipped for it, and doubtless will be as successful in the pulpit, and doing pastoral work, as he was in working with the bees. He will also be able to draw many a sweet lesson from his former vocation.

◆

A New York Bee-Keepers' Institute

The honey has gone to market, and the bees
are in the hive,
But the bee-man is always busy, sure as
you're alive;
In winter he is planning for the summer
that's to come,
And when the bees are swarming "you bet"
he's "going some."
And so the year rolls quickly by, with its winter and its summer,
For the bee-man he gets busy, and I tell you
he's a hummer.
But there comes a time, it's between the hay
and grass,
When it's well to stop and ponder before we
let it pass,
For these Institutes are catchy, and full of
good advice,
And so before you miss them just "think it
over twice."

—*Taken from an Institute Program.*

The Illinois State Convention was held Nov. 20 and 21, at Springfield. Secretary Stone sends the following brief report:

> Although we had heavy rains both days of our meeting, there was a good attendance.
>
> Pres. C. P. Dadant, of the National; Pres. J. E. Johnson, of the Western Illinois; Secretary R. A. Holekamp, of the Missouri State Association, were all present, besides about 20 members from different parts of the State. The railroad transportation being better than the wagon-roads, most of those present came by rail.
>
> Mr. Dadant read a paper on "Drone-Laying Workers," by request of the committee assigning the subjects. Mr. Johnson read a paper, entitled, "In the Poor Years Prepare for the Good Years Which are to Follow."
>
> The time was well taken up by the question-box and the business of the meeting. The officers elected are as follows, for the ensuing year:
>
> President, J. Q. Smith, of Lincoln; 1st Vice-President, J. E. Johnson, of Williamsfield; 2d, S. N. Black, of Clayton; 3d, E. J. Baxter, of Nauvoo; 4th, A. L. Kildow, of Putnam; 5th, W. H. Hyde, of New Canton; Secretary, Jas. A. Stone, Route 4, Springfield; Treasurer, Chas. Becker, of Pleasant Plains; and Foul Brood Inspector, J. Q. Smith, of Lincoln.
>
> The committee to bring bills before the Legislature is as follows: Messrs. Dadant, Johnson, and Stone, with the Executive Committee.
>
> By vote it was ordered that each bee-keepers' society in the State that affiliates with the State Association by sending 25 cents per member as dues, should be allowed to send a delegate to the next annual meeting of the State Association, the railroad fares of such delegates to be paid by the State Association.
>
> Jas. A. Stone, *Sec.*

◆

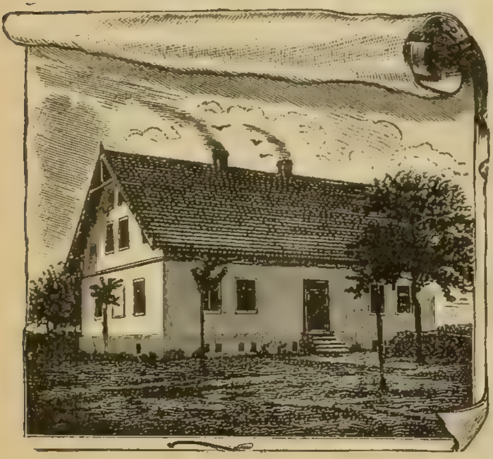
Good-Nature, like the little busy bee, collects sweetness from every herb; while ill-nature, like the spider, collects poison from honeyed flowers.—*Selected.*

Biographs of Beedomites

DR. JOHN DZIERZON

Last week we announced the death of Dzierzon, the great German bee-keeper. We take the following, including the two illustrations, from Gleanings:

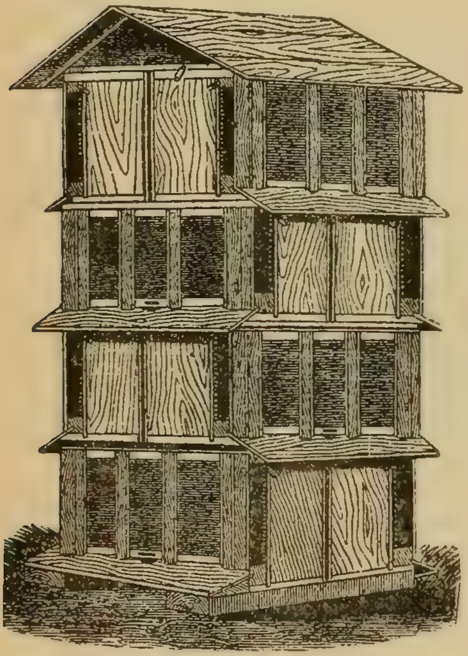
> We have to chronicle the death, on Oct. 26, 1906, of the Rev. John Dzierzon, D. D., Father Emeritus in the Catholic Church, at his home in Lowkowitz, a hamlet near Kreutzburg, Silesia, Prussia. He was born in the same place, Jan. 11, 1811, probably in the same house in which he died, so that, had he lived a few weeks more, he would have celebrated his 96th birthday, or 25 years over the allotted three-score and ten.
>
> He was born just 17 days after L. L. Langstroth, the father and founder of American bee-keeping. In many ways these men greatly resembled each other. Both lived to a good old age—the one 85 and the other 95; both were clergymen, typical of their country, and both were founders of a great school of bee-keeping and both died in October, after long and useful lives. Though Father Dzierzon spent his whole life in the same little hamlet, he was not without honor in his own country. He was of Polish extraction, and lived only a short distance from the Polish line. We hear much nowadays about environment and heredity, and believers in both will find that Dr. Dzierzon's life bears testimony to the value of both, for the Poles are great bee-keepers, and, owing largly to the presence of large amounts of linden (basswood), that part of Europe is a great bee-country, although the subject of our sketch had to depend very largely on the blue corn-flower (*Centurea cyanus*) and buckwheat for almost all his surplus honey. The Poles are a gifted race.
>
> In his early years young Dzierzon must have been greatly impressed with the horrors of war, for he lived in a region decimated by Napoleon in his great campaign against Russia. It hardly seems possible that one man's life would connect us with the great battles of Friedland, Eylau, and Borodino; but here we have to do with a great bee-keeper who could do it, and who died only last month. But the people were sick of glory and carnage, and devoted themselves with great industry for many years to the arts of peace. Dzierzon chose the peaceful vocation of pastor of a church in Karlsmarkt,



DZIERZON'S HOME FOR 95 YEARS AT LOWKOWITZ, UPPER SILESIA, GERMANY.
—*From Gravenhorst's Practical Bee-Keeper.*

a near-by town, and, as a pastime, to the art of bee-keeping, and in due season became the chiefest of bee-keepers in the two great empires of Germany and Austria-Hungary.

Some too enthusiastic followers have claimed for Dr. Dzierzon honors whih he himself never laid claim to—the invention of movable frames. In his "Rational Bee-Keeping," published in 1878, he strongly approves frames and fixtures far inferior to those shown in Langstroth's book published in 1852, and inferior to Huber's hive invented in the 18th century. Dr. Dzierzon was also strongly opposed to movable roofs, one of the most important features of Langstroth's hives. But, nevertheless, he worked out a system of bee-keeping which achieved great results in Germany and Austria-Hungary.



THE DZIERZON HIVE.
—*From Gravenhorst's Book.*

Dr. Dzierzon was the chief agent in discovering parthenogenesis as applied to bees, and it is on this that his fame, I think, will rest—at least we on this side of the Atlantic will so regard it. He had great assistance, however, from Professors Leuckart and von Siebold in proving the theory to be true; in fact, their part of the work called for greater skill than his. He was a great believer in the utility of the Italian bee, and bred and sold thousands of colonies during his long career; and he maintained this business long after he ceased to be an active clergyman. He would have been called a queen-breeder specialist in this country, and he was a very able one, without a doubt. He was a very prolific writer on apicultural subjects, both in journals and books. As a practical bee-keeper he possessed the keenest acumen coupled with intense observation powers, so that he was a wise guide to those in need of advice concerning bee-keeping operations. He also possessed the power of bringing people around to his way of thinking, and compelling them to adopt improvements. These attributes were necessary in him, living as he did among a people who were intensely conservative, and suspicious of all improvements to a degree that Americans can not understand.

Thousands of our fellow bee-keepers in Europe will mourn the death of their great leader, and American followers of the craft will sympathize very sincerely with them in their loss, which is a bereavement to a worldwide company of bee-keepers. W. K. MORRISON.

Dzierzon introduced in his country the system of movable combs. His hives did not have frames, but only top-bars, and the combs were removed by cutting them loose from the side-walls at each visit. In spite of the difficulties of this method he made many important observations on bee-culture.

Thus passes from the field of agriculture another one of the great leaders. Langstroth and Dzierzon—two never-to-be-forgotten names in the list of those who have helped to make bee-keeping a pleasant and profitable business.

Contributed Articles

A Consideration of Bee-Diseases

BY ADRIAN GETAZ.

On page 704, Mr. L. B. Smith relates some experiences and calls for experts (?) to explain. The third one is easily accounted for. The swarm followed one of the young queens that were out to mate. The queen mated and went back home. The swarm finding itself "left" could not do otherwise than to go back home, also. The destruction of tht queen-cells is easily accounted for. Soon after the swarm issued, Mrs. Smith put the queen back. As most of the bees were out, the queen-cells were not well protected, and the old queen succeeded in destroying them during the 20 or 30 minutes that elapsed before the swarm returned. I have had similar cases a number of times. As to the other "experiences," I can not answer, but, after looking all over my books and papers to find something, I concluded that the following may possibly help toward reaching a solution:

A PECULIAR DISEASE.

A new disease was observed by several bee-keepers in a section of Germany some 10 years ago. Young bees unable to fly came out and died in heaps, and much of the brood was dried up, retaining its form. Specimens of the bees and brood were sent to Pastor Schonfeld. He found the bees entirely devoid of moisture. They could not be cut with a knife, but flew to pieces when a strong pressure was applied. The cause was found to be a fungus in the alimentary canal. Death ensued whenever it had developed sufficiently to effect a stoppage. The hard larvæ were composed almost entirely of fungus, which even pierced the tender skin between the rings and showed upon the outside of the body. At first, Schonfeld thought it the fungus known as *Oidium Leuckarti*, first described by Prof. Leuckart, in 1857, which causes injurious but not disastrous effects in the intestines of the bees; but a culture in sugar and gelatin showed it to be a new and different species. It is closely related to the *Oidium Leuckarti*, but still more to the *Oidium albicans* which attacks the mouths of infants. A few similar cases have been reported more recently in Germany.

QUEENS DISAPPEARING.

When a colony has the pickled-brood disease, the queen invariably dies or disappears in some way. She probably takes the disease, and dies. This supposition is well justified by the fact that she receives from the bees the same kind of food as the larvæ. According to Dr. Howard the disease is caused by a kind of mold or fungus that propagates itself in the pollen as well as in the bodies of the larvæ. When the disease has reached a certain point, the bees cease to bring in pollen, and also cease to rear brood. Eventually the queen disappears, what brood is sound hatches out, and the dead brood dries and is carried out by the bees. And when the bee-keeper visits the colony, he finds it queenless and no sign of queen-cells or any attempt at rearing one. That has invariably been my experience.

RECENT DEVELOPMENTS.

The question of foul brood and other similar diseases is now on top again. The assertions made lately by some prominent writers seem to be somewhat premature.

Foul brood has been known for quite a long time and has been confounded with several other diseases that affect the bees. The first serious study of it was made in Germany in 1873 or 1874. Ten years later Cheshire and Cheyne made a complete investigation, and described accurately the disease and the bacillus that produces it. The experiments made leave no doubt as to the correctness of their observations. Ten or 12 years ago, Prof. Harrison took up again the subject and investigated it thoroughly and verified in every detail the assertions of Cheshire and Cheyne.

In 1902 Lambotte, of Liege, Belgium, announced that the *Bacillus alveus* producing foul brood was the same thing as the *bacillus mesentericus vulgatus* which is often met in decaying substances. He described the experiments that led him to these conclusions.

A year or so later, Cowan, in England, and Bertrand, in Switzerland, went over the ground and succeeded in showing that Dr. Lambotte was mistaken. It is only just here to explain that all the bacilli are very minute things, barely visible with the strongest microscope, and very much alike. Also that the *bacillus mesentericus vulgatus* produces a glue-like or gummy substance very much like that found in the foul-brood disease.

Recently Dr. Burri, of Zurich (Switzerland) made another investigation. A first study on some samples of diseased brood sent him showed three stages of the disease. In the first, the larvæ are not changed in form, and are full of bacilli, but no spores are present. Gradually the larvæ pass into the second stage, die and become soft and glue-like and turn to a brown color. This substance is elastic and can be pulled in threads. Numerous spores are formed, and finally the dead larvæ dries up and nothing is left but a dry scale adhering to the lower side of the cell and full of spores.

An attempt at cultivation was a complete failure, just such as Dr. Lambotte met with. The *bacillus mesentericus* was occasionally found, but seems to have gotten in accidentally, as it does in other putrefying substances. But little odor was observed. The impossibility of cultivating the bacillus of that disease and the accidental presence of the *bacillus mesentericus* explain how Dr. Lambotte took the last for the cause of the malady.

Other samples gave entirely different results. Bacilli and spores were found together; the spores were much larger than those described above, the rotten, glue-like odor was very pronounced, the cultures easily made, and the *bacillus alvei* fully identified. In a word, that was the genuine foul brood.

Accompanying foul brood, Prof. Burri found what he has called "acid-brood." This is caused by non-motile bacteria which do not form spores. In the acid brood, the larvæ do not turn into anything like a glue-like substance, but, while very soft, retain their form and can be pulled out of the cells at any time.

Some study of bee-dysentery has also been made. Several kinds of microbes have been seen but not yet studied. It seems certain that the disease is at least sometimes, if not always, of bacterial origin. There are probably 2 or possibly 3 different diseases in what is usually called dysentery.

CHESHIRE'S OBSERVATIONS.

As far back as Cheshire's times, it was already known, or rather suspected, that what was called foul brood covered more than one disease. After describing the regular foul brood, or rather the disease produced by the *bacillus alvei,* and bee-paralysis, he gives a short description accompanied with drawings of the following cases (Vol. I., pages 571 and following):

1. From a number of bees sent by a correspondent, two bacilli were found growing side by side. One was quite large and collected in dense plates (zoogloea form), and the other a very small form. The large bacilli had been met by him once before, and seems to be sometimes excessively destructive.

2. Another kind of bacillus was found only once in a queen sent him, and was remarkable for a peculiar form on its flagella.

3. A queen of very large size, but with rather small legs, was found to be too weak to continue on the comb. On opening her body, a thin, milky fluid escaped from the opening with astonishing rapidity. Examination revealed it to be full—not of bacilli, but of another kind of fungus, of the class called *micrococci.* This was the only case of that kind that he ever met.

4. Another queen sent him was young yet, but scarcely laid at all. In her brood were found millions of very minute and very strange organisms. These multiply by division and carry a comparatively thick envelope through which darker cross-markings can be distinguished. Only one case of that sort was met with.

5. A distinction must be made between an overloading of the bowels of the bees, due to long confinement, and a distension produced by the multiplication of fermentive germs. He gives a drawing of an organism found in multitudes in the bodies of dysenteric, or rather diarrhetic, bees. That organism under cultivation showed itself to be one of the *phycomecetes.* Other dysenteric bees contained a true *torula.*

6. He also states that at the time of the above writing, he had under experiment another kind which had presented itself in the apiary of Rev. G. Raynor, and which seemed to be about as destructive as the *bacillus alvei,* but the study was not yet sufficiently advanced to give any reliable details.

In Langstroth Revised, page 446 (edition of 1888), I find stated that according to the English microscopists, there are two kinds of *bacillus alvei,* the *major* and the *minor.*

A BEE-HOSPITAL.

The researches made at the U. S. Department of Agriculture are, as far as I know, very unsatisfacory. And I do not wonder that it is so. All that they have to work on are samples of dead brood sent them by Tom, Dick, and Harry, who think it is foul brood; but in 99 cases out of 100, could not tell the difference between foul brood, small-pox, and hog-cholera. By the time the sample reaches the Department, numerous germs from the atmosphere have come in contact with it and multiplied at pleasure; putrefaction has set in; the disease probably run out of its course, and the whole is nothing but a useless, rotten affair of no account whatever.

What makes Cheshire's observations valuable is the fact that he had the colonies right by him. He observed them for several years, followed the disease in the living bees at all the stages, examined bees, queens, and drones in all their organs and experimented thoroughly. Add to this his ability and long experience as entomologist, microscopist, and chemist; and it will be seen at once that his assertions deserve far more consideration than those of a few modern writers who lately have assailed his teachings and posed themselves as far ahead of him and other "old fogies."

And that is the only kind of investigation that will ever amount to anything. Procure colonies of diseased bees and study them thoroughly. In a word, a kind of bee-hospital. Who can do it? The Government or the National Bee-Keepers' Association? Needless to add that a first-class bacteriologist should be employed. Foul-brood inspectors, large and successful bee-keepers, eminent writers, etc., do not amount to anything when it comes to handling the microscope. They might learn with enough time, but their preconceived notions would hinder them considerably.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

A Holiday Greeting

Here's wishing "A Merry Christmas" and a "Happy New Year" to each and every one of the bee-keeping sisters. And with the wish comes a glow of thankfulness for the kind words that have encouraged throughout the year, and for the help from the many pens that have made this department more enjoyable.

May the coming year be better to all of you than any year that has gone before; may more sweetness flow for you; and may your interest in the busy little bee never grow less.

EMMA M. WILSON.

Women Bee-Keepers in Austria

England is not the only country in the world whose bee-keepers have a woman in the highest place of honor. On the occasion of the Austrian association of bee-keepers obtaining its 10,000th member (only think of a membership of 10,000!), the president, Herr Oswald Muck, issued in Bienen-Vater a congratulatory letter which closed with the following words:

"And so shall we also in the future, to the joy of our highest protectress, her most Serene Highness, the Archduchess Maria Josefa, remain a united nation of bee-keepers."

Bienen-Vater never fails to fly at its mast-head the additional fact that for 30 years the society was under the wing of Her Majesty, the Empress Elizabeth.

A Somewhat Feminine Convention.

One-fourth of the special car-load to San Antonio were of the female persuasion. If the same proportion held good at the convention, it was no doubt the most feminine convention ever held on the continent.

Black Color and Bees

That picture of Mr. Whitney's "Black-Stockinged Little Girl" with explanatory note, page 978, is evidently intended to prove that bees have no special antipathy to black. But doesn't it prove too much? Doesn't it prove just as well that bees have no antipathy to bare heads, and that bee-veils are never necessary? If Mr. Whitney's bees were so gentle that he felt entirely safe to trust a confiding child to hold a frame of bees bare-headed, one would hardly expect them to sting any clothing, even the blackest. For it is not believed that black has such an influence upon bees that it will enrage good-natured bees so as to make them sting; only that when they are cross, or inclined that way, they will sting black more readily than white. Proofs of that, Mr. Whitney, have not been lacking in this locality.

Honey Caramels and Cookies

I wonder how many of the sisters use as much honey as they might while planning their Christmas menu. Two of the standard articles in our locality are honey-caramels and honey-cookies. We don't get tired of either of these, and we think them delicious. I have had a good many calls for the recipe for these honey-cookies, and this holiday season is the season of the year when these calls are likely to be most frequent.

If any of the sisters have never as yet indulged in these excellent cookies, here is the recipe:

One cup of sugar; 1 cup of honey; 1 cup shortening (a good, generous one); ½ cup sour cream (this may be omitted if you don't have it, but it is an improvement); 1 teaspoonful soda; cinnamon and nutmeg to suit taste; enough melted chocolate to color a good brown. Mix enough flour to roll out. Be careful not to get too much flour. Try one cooky, then if more flour is needed, add until you get just right.

When company comes and some of the cookies are on the table, be sure to mention the fact that they are *honey*-cookies. That opens the way to do a little advertising that can be in no possible way objectionable. Just say something in effect like this: "I like these honey-cookies so much better than cookies made with sugar. Not only do they suit the taste of most people better, but they are so much more wholesome for children—yes, and for grown-ups, too. Then you may not know that honey has that peculiar quality that makes honey-cookies keep moist and fresh for weeks where sugar-cookies would become dry and stale."

If each of the sisters would do her share along this line it would, in the aggregate, amount to something worth while.

The recipe for honey-caramels is as follows:

One cup extracted honey of best flavor, 1 cup granulated sugar and 3 tablespoonfuls sweet cream or milk. Boil to "soft crack," or until it hardens when dropped into cold water, but not too brittle—just so it will form into a soft ball when taken in the fingers. Pour into a greased dish, stirring in a teaspoonful extract of vanilla just before taking off. Let it be ½ or ¾ inch deep in the dish; and as it cools, cut in squares and wrap each square in paraffine paper, such as grocers wrap butter in. To make chocolate caramels, add to the foregoing 1 tablespoonful melted chocolate, just before taking off the stove, stirring it in well. For chocolate-caramels it is not so important that the honey be of best quality.

Southern
Beedom

Conducted by Louis H. Scholl, New Braunsfels, Tex.

The Old Year and the New

Another year is nearly gone, and the new one is coming. What have been your successes and what your failures for the past season, and what are you contemplating for the coming year? What improvements will you make, and what will you do to improve bee-keeping? These and many other things could and should be profitably discussed in "Southern Beedom," and a lot of such discussions and brief articles will be greatly appreciated, to make our department the best in the "Old Reliable."

To those who have so kindly corresponded with me during the present year, I wish to extend many thanks, and hope I may be favored with many letters again during 1907. With many earnest intentions to make everything better than ever before, I wish one and all

A MERRY CHRISTMAS
AND
A HAPPY NEW YEAR.

LOUIS H. SCHOLL.

Another Remedy for Bee-Paralysis

Mr. J. K. Hill, of Uvalde, Texas, at one time lost about 50 colonies one season from bee-paralysis, and says that although this disease is very common in the southern portion of the United States, in most cases it does but little harm to the colonies. But in other cases, and under certain conditions, it is very destructive. There is no treatment yet discovered that is an absolute cure, but the best remedy, to his knowledge, is as follows:

Tincture of podophyllin, 3 oz.; sulphuric acid, 1 oz.; honey, 1 gallon; and hot water ½ gallon. Mix, and sprinkle the combs, bees and brood with the warm solution thoroughly. Three applications should effect a cure. As the disease is caused from constipation, the podophyllin acts as a laxative, and the acid as a disinfectant.

San Antonio Convention, Fair, Etc.

The National Bee-Keepers' Convention held in San Antonio, Tex., Nov. 8, 9, and 10, was a grand success, although not so well attended by our Texas bee-keepers as I had hoped for. We suppose this was owing partly to the very short honey crop of Texas.

THE HONEY AT THE SAN ANTONIO FAIR.

We were somewhat disappointed in the honey exhibit at the Fair at San Antonio. Not in the style and neatness of the exhibit, for that was a credit to any fair, but in the quality of the honey exhibited. For instance, we saw honey labeled, "Honey from the Cotton-Blooms" that was almost as dark as honey-dew. The same was true of the honey labeled, "Sumac Honey." This was a great injustice to our almost water-clear cotton-honey, and beautiful, straw-colored sumac-honey. Perhaps, however, this was the best that could be done owing to the poor season for bees.

NEXT YEAR'S PROSPECTS.

The prospects for a honey crop for 1907 are not so bright as we sometimes have, owing to the very dry fall we have had. For this locality, however, we do not feel in the least discouraged, as most of our surplus of marketable honey comes from the mesquite bloom and sumac, and the mesquite always does best in dry years for us; and if it rains through June and July, we are sure of a crop of honey in August from sumac.

WHY NOT COTTON A HONEY-PLANT?

You say, Mr. Scholl (page 915), in a foot-note, "You did not mention cotton, which I thought was a useful honey-yielder in your section—north central Texas." No, I did not mention cotton as a surplus honey-yielder of this locality, from the fact that I have lived here 16 years and have never yet had surplus honey from the cotton-bloom; not that cotton does not yield in this locality, but farming is not carried on as extensively in this county (Lampasas) as in most parts of the State, on account of so much waste or poor land. It is difficult to find a location in this country where an apiary could have access to say 500 acres of cotton without traveling a distance of several miles. That is why I didn't mention cotton as a surplus-honey yielder here.

NAMES OF HONEY-PLANTS.

Possibly it will help you, Mr. Scholl, to identify the little blue flower as mentioned by me on page 915, as a honey-plant of this locality, to say that it blooms in April, and that it grows to a height of about 6 inches, and the bees become dusted on their backs with white pollen, the same as they do when working on horsemint. I can remember seeing bees work on these beautiful little blue flowers 40 years ago, when only a small boy in Bosque County, Texas. I can also remember seeing bees work on wild marigold and horsemint at the same time—or year, I might have said—as they don't bloom at the same time.

STUDY AND KNOW YOUR HONEY-PLANTS.

It is very important that we should know the honey-plants of our locality, that is, those that furnish our surplus. To illustrate: A bee-keeping friend of mine saw me this summer as I was visiting one of my out-yards at the close of sumac-bloom, and said to me, "Say, Mr. Smith, how are you off for comb-foundation for brood-frames?" I told him I was well supplied, that I had used less than one-fourth of what I had ordered owing to the poor season. Then he said, "I should like to get about 30 pounds of you, as my bees are crowded for room and rolling in the honey." I told him I was somewhat surprised, as my bees were not getting much if anything above a living; that the flow was over at all my yards, 2 of which were not over 5 miles from his bees. But he insisted that his bees were getting honey fast.

It later developed, however, that the flow was over with his bees the same as mine, and that the foundation I let him have was worse than useless to him, as the bees only gnawed around the wires in the frames and damaged the foundation, without drawing out a single sheet of it. If he had known the time of his honey-flow, and had put on his supers 3 weeks earlier, he would have secured a crop of honey, and have had his foundation drawn out into beautiful combs.

I have given the above so that our novice friends may see the importance of knowing the time of their honey-flow.
L. B. SMITH.

Rescue, Texas.

Management of Swarms, Etc.

After a second reading of Mr. Dayton's article, on page 931, I wish to make a few remarks and suggestions lest some beginners may make some mistakes. In speaking of hiving swarms it would appear that Mr. Dayton does not hive them on the old stands, which is the only safe way to hive swarms and secure surplus honey when the honey-flow is near at hand.

It may, and it may not, be best to prevent swarming, but in this locality I prefer to make my own swarms at the proper time, and give all swarms a young queen of unquestionable quality.

It appears to me that testing a swarm in a box is not only useless, but a waste of time for bees and man. In speaking of improvements in bees, Mr. D. says "only Nature can make the improvements, and Nature should be allowed as free a hand as is possible to give." Right here I must disagree with Mr. D., for if I or any other queen-breeder would rear queens from *any* colonies that prepare cells for swarming, only rejecting the poorest colonies, we could not hope for any improvements in our bees. We must select as breeders the very best honey-gathering colonies, not only for queen-mothers, but drone-mothers as well. The size of hive has little to do with swarming in this locality.

An old or deficient queen is often the cause of swarms issuing before the hive is in any way crowded. Such swarms are as likely to leave for parts unknown as those with the best of queens. It sometimes happens that nothing will hold the swarm except clipping or caging the queen. A large natural swarm is not always sufficient proof of a valuable queen. I have had large swarms issue with queens 4 years old, one of which never laid an egg after hiving. Mr. D. says he has often seen prime swarms issue with the old and several young queens. In this Mr. D. is mistaken, for such swarms are not prime swarms, but are caused by superseding, and happen more frequently than is usually supposed, and the old queen usually meets her doom shortly after the swarm is hived. The old, clipped queen Mr. D. mentions was immediately balled when trying to re-enter her hive, because her usefulness was past, and the bees had young queens to take her place. She would have been killed had she been hived with the swarm and one or more young queens at liberty in the hive.

In conclusion I will say, Don't waste the bees' time by confining the queen in a box for several days, as such waste of time often means a waste of dollars and cents.

Sabinal, Tex. GRANT ANDERSON.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. HASTY, Sta. B. Rural, Toledo, Ohio.

THE GREAT DZIERZON HAS FALLEN.

When a great tree falls in the vale we walk its prostrate trunk and meditate how great it was, and how tall; but when a great tree falls on the mountain it falls out of sight. Dzierzon, tree on the mountain, has fallen. Oft we say a multitude of things to the credit of our departed leaders, and praise the things which they did for the craft—and get a good deal beyond the combines of strict, altruistic truth. But unless we make an effort to be just we shall not give the one whom we now mourn half the credit he deserves.

SOME MOUSE-AND-HONEY EXPERIMENTS.

At the risk of being called afflicted with mice on the brain I think I will quote considerably, and with notes, from the book in which I record my mouse experiments:

Friday, Oct. 19.—Now for Daniel in the lions' den! Put a 12-oz. section of white honey at 10 p. m. in the dining room of Alpha and Beta. They have besides the section a cracker, 10 sunflower seeds, 10 squash seeds, a chestnut sliced, and water. Observed awhile when first let in. As usual, much scampering and not much eating. Early and frequent sips of water. What eating they did do was almost wholly on the cracker. The section was inspected—could not see if they did anything to it. (These frequent sips of water during meals are surprising, seeing that mice so generally have to live, and even breed, entirely without water.)

Saturday, Oct. 20.—The section? (O Daniel, did the lions incline to nibble thee?) *Freckled*—with little places where the capping is off—rather as if from sharp toes climbing up it than otherwise. On one side 14 of these abrasions and 10 on the other. Average size of these spots about one-fourth the area of a cell-top. Not all the same shape. Tried picking another such spot with a pin to see if it would look the same. About the same as most of them. From a few it is possible that tiny sips of honey have been extracted to taste it. Don't look at all like the *usual* work of mice on a pile of honey. (Another surprising thing is the low estimate they put on chestnuts. They didn't even play with the slices given in this experiment.)

Sunday, Oct. 21—The section with another night's exposure (one side pushed against the wall) has the number of abrasions on the exposed side increased from 10 to 16. Out of about 3 of them tiny sips of honey have apparently been taken—to the total bulk of about one or two big drops of water—and these three breaks are a trifle larger than those described yesterday.

Monday, Oct. 22.—A third night of exposure of the section increases the abrasions on the exposed from 16 to 20. One cell, so situated that two sides and an end are exposed, is now so broken that the honey runs out. And the amount of two or three drops more have been taken apparently.

It remains to see how they will treat the section when they have no other food. I overhauled and cleaned their inner premises, to remove any food uneaten which they may have carried in; and to-night they are to have water and the section of honey, and nothing else. Alpha seemed surprised not to find the usual food in the dining-room when he came in.

Tuesday, Oct. 23.—Well, one day's fast is not enough to make my mice eat anything like a meal of honey. They did about the same as previous nights. Abrasions increased in number from 20 to 24. The side cell that was leaking now has its sides entirely broken away—honey, much of it spread over the face of the comb—some very likely eaten. Total eating not more than three or four drops, apparently. (By creatures accustomed to eat one-third their weight at one banquet.)

Wednesday, Oct. 24.—Another day of fasting passed. I saw them sip honey quite eagerly when let in. But the amount taken, both then and during the whole night, was small—a trifle compared with what mice eat of things they like. Abrasions increased from 24 to 27. Now think the teeth and not the toes make the abrasions. I estimate the total honey taken in 2 days of fasting, plus 3 days of full feeding, at 12 cells. A section has room for nearly 800 cells, containing 14 ounces actual honey—57 cells to the ounce—7½ grains to the cell. Then their total eating, if I figure right, is about 92 grains—a little more than the weight of two dimes.

Well, what now? I was wrong in claiming, that mice *never* eat honey till starved; and my critics were wrong in claiming that they eat enough to amount to anything. And pretty severe starving doesn't make them eat a meal of it, either. Apparently they regard honey as a man regards, say cloves, as not food at all, but a pleasant *et cetera* to be tasted of now and then. I didn't want these mice to eat one another—wanted them for more experiments—and so did not push them quite to the alternative of—eat honey or die.

My section after 5 nights of exposure looks so totally different from the usual work of mice on a pile of honey that I am confirmed in my previously-expressed opinion that the usual peeling off of cappings is to lap the surface for water.

And the practical, What shall we do, therefore? Well, don't pile sections where mice can go if you can help it. But if you kind o' have to do so, just put a saucer of water by your pile and don't worry. If you can add a trap or two, so much the better. I wish some time to repeat this experiment with other mice, and also to try their opinion of "bee-bread," and to try them on comb full of dead bees crawled in, but I haven't found time yet. Can't give them many moth-larvæ till next year—and it hardly needs experiments to prove that they do a good job in cleaning combs of worms. Mousie, although not counted among the carnivora, has a ravenous longing for an occasional treat of animal food.

Canadian
Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

Ontario Association's Officers

The following were recently elected for the ensuing year:

DIRECTORS FOR DISTRICTS.

No. 1.—W. J. Brown, Chard.
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No. 8.—Jas. Armstrong, Cheapside.
No. 9.—R. H. Smith, St. Thomas.
No. 10.—G. A. Deadman, Brussels.
No. 11.—J. F. Miller, London.
No. 12.—Denis Nolan, Newton Robinson.
No. 13.—Prof. Sherman, O. A. College, Guelph.

Next place of meeting, Toronto.

Auditors—J. L. Byer and E. Grainger.

Representative to the Toronto Exhibition—E. Grainger, Toronto.

Representative to the Ottawa Exhibition—J. K. Darling, Almonte.

Representative to the London Exhibition—J. B. Hall, Woodstock.

Revising Committee—Morley Pettit and H. G. Sibbald.

Crop Report Committee—H. G. Sibbald, W. J. Craig and Wm. Couse.

Transportation Committee—R. F. Holtermann, Wm. Couse and J. D. Evans.

President, elected by the directors, R. H. Smith.

Improvement of Bee-Stock

D. M. Macdonald wisely says this in the British Bee Journal:

> If bee-keepers would only spend half as much time over this question as they do over some other things, the whole bee-keeping world would be better off.
>
> Neither does that mean that a few of the greater lights should turn their attention to it, for every bee-keeper with only 5 colonies can make a difference in his yields by seeing that new queens come from his best colonies. And as has been heretofore shown, he may do no little in this direction without ever seeing a queen—even with box-hives.

Unadorned Flowers

While adornment is so universally the measure of worth, it is natural that flowers should be prized for their bright and rich decorations rather than for the vital parts for which the gay trappings exist. Decorations have the universal charm that makes them measures of value for all time, and this is true alike of the wampum shells of the Indian and the gold of the Hebrew and his imitators. It is not unnatural that the unadorned flowers should be passed unnoticed when many that are rich in color and perfume will soon be crowding for recognition; but the early flowers, even if lacking the richer colors and forms of vesture that command attention and win admiration unstinted, are worthy of an eager welcome as the earliest offerings of the season.

The maples are now masses of flowers, insignificant if casually observed, but early, eager, and touched with the spirit of the season. On the male-trees of the silver maple every branch and twig is decorated with many bristling tufts of pale yellow. These buds are ready to fall and strew the pavements with the first vigorous wind or rain storm. The female trees are richer in color, but the delicate little threads of dark red are too small to give the multitude of buds a decorative aspect. They give the tree a decided tint, and their quick, rough growth closes the tracery that seemed so open against the sky during the naked winter. The red maple is still richer in the coloring of the opened buds that give it a distinctive name. These are spring flowers, filled with the spirit of renewed life, and worthy of the admiration freely bestowed on later and more gaily decorated arrivals.

The sugar maple is far more backward, its little bunches of drooping flowers remaining in their sheltering buds till the leaves begin to unfold. The elms are flowering, and it is unfortunate that their diminutive, purple-tipped flowers are confined to the higher branches, where they can be seen only as a denser entanglement of interlaced twigs. The elm is eager to welcome the spring with floral offerings, and, as if to hurry the season, is scattering her winged seeds before the summer has advanced. The pussies on the willows must have a place among the earliest of spring flowers, and their soft, downy coats, as they come forth from under their winter coverings, give them the welcome aspect of animation. The male trees are already showing yellow tints, and the pink-tipped pods of the female trees will soon be filled with light bunches of cottony seed.

The tall, slender Lombardy poplar is a male tree, whose mate has never been brought to this country. It is an unsociable tree, drawing its branches in to itself as if to avoid all contact with its fellows. From the early catkins of flower on the upper branches it scatters its wasted pollen to the passing air. On the alders in the swamp the catkins are expanding, elongating, and swaying with the faintest breeze, sending out little clouds of yellow that tint the adjacent twigs. The flowers borne on the branches of sturdy and vigorous trees may not come with offerings of rich and fascinating beauty, but their welcome is none the less cordial and sincere. They come in the universal spirit of awakening and renewal, an earnest of the perpetual youth of Mother Earth.—Editorial in Weekly Globe, Toronto.

CONVENTION NOTICES.

Kansas.—The Kansas State Bee-Keepers' Association will hold its annual meeting on Thursday and Friday, Dec. 27 and 28, 1906, at the State Capitol, at 10 a.m., 2 p.m., and 7 p.m. of each day. Mr. C. P. Dadant, President of the National Bee-Keepers' Association, and Mr. E. T. Abbott, of St. Joseph, Mo., have both been invited, and will be present if possible. Papers on different subjects pertaining to bee-keeping will be in order, and the question-box will be one of the prominent features of the meeting. All interested in bee-keeping are requested to attend.

G. BOHRER, *Pres.*

O. A. KEENE, *Sec.*

Michigan.—The Michigan State Bee-Keepers' Association will meet at Big Rapids, Dec. 25 and 26, 1906, the meeting opening on the evening of the 25th and continuing through the next evening. We are working to make it the best attended convention we ever had. Low rates on the railroads.

ELMORE M. HUNT, Sec.

Bell Branch, Mich.

Engravings For Sale

We are accumulating quite a stock of engravings that have been used in the American Bee Journal. No doubt many of them could be used again by bee-keepers in their local newspapers, on their stationery, or in other ways. Also, if we can sell some of them it would help us to pay for others that we are constantly having made and using in our columns. If there is any of our engravings that any one would like to have, just let us know and we will quote a very low price, postpaid. Address,

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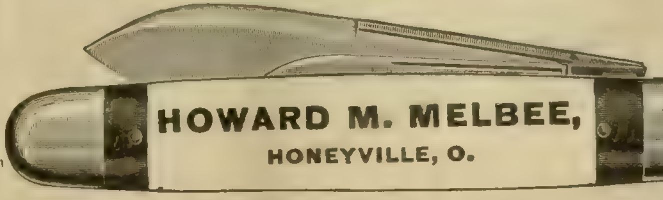

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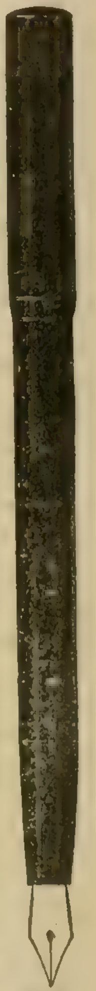

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The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. It will last a life-time, with proper usage.

Why Own the Novelty Knife?—In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and, in case of death, your relatives will at once be notified of the accident.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or club the Novelty Knife and the American Bee Journal for one year—both for $2.00. (Allow two weeks for Knife order to be filled.)

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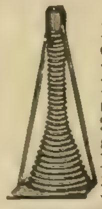

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We have originated and had made specially for our readers, a bronzed-metal Clock, called "**The Bee-Hive Clock.**" It is 10¼ inches wide at the base, 9¾ inches high, and deep enough at the base to stand firmly on a mantel or elsewhere. It is a beautiful piece of work, and would be both ornamental and very useful in any house, and particularly in a bee-keeper's home.

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Clocks like "The Bee-Hive Clock" usually sell in the stores at from $4.00 to $5.00 each, but having them made for us in quantities enables us to offer them at $2.50 each by express, or with the American Bee Journal a year—both for only $3.00. Either Clock or Journal would make an ideal gift.

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What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) or, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. Miller.

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Bee-Gloves, long arms, fleece-lined, in two sizes—large for men, small for ladies ..... .35
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mail sample and state lowest price expected delivered Cincinnati. If you want to buy, state quality and quantity and I will cheerfully quote you price.

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Will pay, at all times, highest market price on receipt of goods.

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Honey and Beeswax

Chicago, Dec. 7.—There is the usual dullness in the honey-trade at this date owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hands of the trade generally are below the normal; hence prices are firm at 15@16c for No. 1 to fancy white comb, with off grades at 1@2c less: amber grades dull at 10@12c. Extracted white, firm at 8c for clover and basswood; ambers, 6½@7½c per pound. Beeswax, 30c.
R. A. Burnett & Co.

Kansas City, Dec. 6.—The demand for comb and extracted honey is good, receipts light. We quote: Fancy white comb, 24 sections, per case, $3,25; No. 1, $3.00; No. 2 and amber, $2.75 Extracted, white, 7@7½c; amber, 6½@7c. Beeswax, 27c.
C. C. Clemons & Co.

Cincinnati, Nov. 8.—The market on comb honey seems to be a little quiet; No. 1 sells wholesale for 14½c; retail by the case, 16c. Extracted firm; light amber in barrels, 6c; in cans, 7c; white clover, 8½c. Beeswax. 30c.
C. H. W. Weber.

Philadelphia, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c; No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission.
Wm. A. Selser.

New York, Dec. 3—Comb honey is in good demand, and No. 1 and fancy white stock seems to be pretty well exhausted. Buckwheat is in sufficient supply, also off grades of white, to meet all demands, but there is no overstock as yet. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12c; buckwheat and amber at 11c per pound, according to quality and style of package. Extracted is firm at unchanged prices. California white sage, 8c; light amber, at 7@6½c; buckwheat, 6@6½c. Beeswax steady at 30c.
Hildreth & Segelken.

Denver, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
The Colo. Honey-Producers' Assn.

Cincinnati, Dec. 7.—The honey market is in a healthy condition, particularly extracted honey, the demand being better than one year ago. This is probably due to the excitement among those holders who are trying to inflate the prices. We quote amber extracted honey in barrels at 6@7c, according to the quality. Fancy table honey in barrels and 60 lb. cans at 8@9c. The demand for comb honey has decreased, somewhat, owing to the season of the year when the sale of that article suffers. Our prices of fancy white comb honey, in a wholesale way, is 15@16c. Choice yellow beeswax, 30c, delivered here.
The Fred W. Muth Co.

Indianapolis, Nov. 15.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Toledo, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
The Griggs Bros. & Nichols Co.

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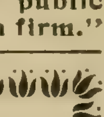

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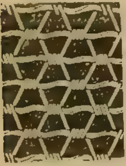

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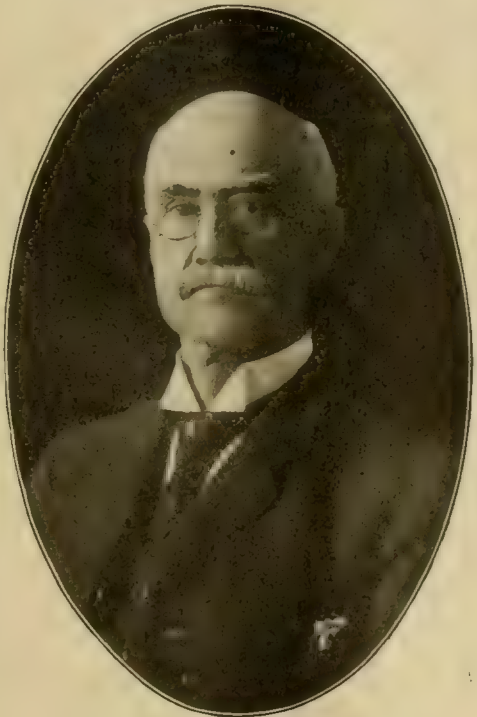
46th Year DECEMBER 27, 1906 Number 52

AMERICAN BEE JOURNAL

PRESIDENT-ELECT OF THE
National Bee-Keepers' Association



MR. L. A. ASPINWALL
JACKSON, MICH.

TWENTY-PAGE NUMBER WITH INDEX FOR 1906

THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY
334 Dearborn Street, Chicago, Ill.

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AMERICAN WEEKLY BEE JOURNAL

L. L. LANGSTROTH
CHAS. DADANT

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)
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GEORGE W. YORK, Editor CHICAGO, ILL., DECEMBER 27, 1906 Vol. XLVI—No. 52

Editorial Notes and Comments

A Happy New Year we wish every reader of the American Bee Journal—and many more of them!

◆

That Handsaw-and-Hatchet Hive

A Connecticut correspondent who has failed to give his name or address writes saying that a hive made after the figures given on page 993 would, in his judgment, be worse than any box-hive he ever saw, and asks that the figures be corrected "so they will fit." Unfortunately he has failed to specify which, among the many figures, are wrong, and why they are wrong. If he will supply this deficiency, the proper correction will be cheerfully made.

◆

Philippino Bees—With Variations

An exchange has a description of the big bees of the Philippines, credited to "an Eastern daily," which does not vary from the usual description except that variety is introduced by saying, "They make a large 5-sided cell about 2½ inches deep." As no mention is made of any other size of cell, it is reasonable to suppose that 2½ inches is the depth of a cell in which a worker is reared. If a worker is anything like 2½ inches long, no wonder it is called the "Giant bee of India." More remarkable, however, is that "5-sided cell." The man who originated that idea should be allowed to perch on a tree beside a nest of those 2½-inch bees until he completed a draft of a piece of comb made of 5-sided cells.

◆

The Dzierzon Theory a Myth!

While the news of Dzierzon's death is still fresh, there is sent to us by Mr. L. B. Smith, of Texas, a clipping written by J. W. Thomas, who evidently thinks that believers in the Dzierzon theory are blindly following tradition that has no foundation. He says:

> Now I will discuss the high royal prerogative of her majesty the queen-bee. I admit that she is an autocrat ordinarily, and rules the hive in perfect order without fear, and that she is not an egotistical gadabout nor an evil tattler in her circles of female royal associates of her rank. But I will shear her royal locks of a prerogative that has been awarded her for more than a century by uninformed bee-keepers, viz.: that she lays eggs of her own that will hatch drones only, she refusing to fertilize the eggs in the act of laying them so that they will hatch drones only and not worker-bees.
>
> This pretended discovery was announced first by a German doctor whose name I have not before me, and I will not undertake to spell it, but it begins with the letter T, and he evidently knew something of the Greek language, as he used a Greek term, "Par-the-no-genesis," or alternate generation by a virgin without a male, in honor of her majesty the queen-bee. Now, I presume that the son of Esculapius was learned in heathen mythology and well versed in fiction, especially of a very ancient nation, who were long in war with all the other nations of the earth, and lost legions of soldiers, and their army was invincible, as their women virgins especially kept their ranks full of soldiers by raising boys only, and by the par-the-no-genesis system, or alternate generation. He certainly sought to honor the queen-bee, which is said to be more prolific than any insect except one species of ants.
>
> Our German bee-keeper lived in the dark ages of bee-land, and his zeal overran his knowledge, and his theory was untenable, though he acquired great reputation and gained notoriety and convinced many that queen-bees were possessed of supernatural power, and it yet has its advocates in the front ranks of bee-culture. But there are many handling bees now who know but little about queen-bees, and in the German doctor's time the people knew less, and there are bee-keepers now who believe the theory from the fact that it has been published so long.

This passage is preceded by the assertion that he will offer proof that the accepted theory is incorrect, and he then says:

> The first evidence I will offer is physiology and all of its standard works. After she becomes a fertile queen she lays fertile eggs during life, and she is the only fully developed female in the hive.

And that is all he gives by way of proof!

For the sake of some of the younger readers it may be worth while to say that the discoverer of parthenogenesis did not begin his name with a T, although the sound might suggest that letter, for Dzierzon is pronounced "Tseertsone;" also, that he was not an M. D., or a "son of Esculapius," but an official of the church; that instead of the prerogative of the queen, as Mr. Thomas says, being "awarded her for more than a century by uninformed bee-keepers," the truth is that Dzierzon was not born a century ago. His discovery was made only half a century ago, and his death did not occur until October, 1906.

When Dzierzon first promulgated his theory, a bitter war over it occurred among German bee-keepers; but in this country it is doubtful that heretofore any well-informed bee-keeper has opposed it. Either Mr. Thomas is the first well-informed bee-keeper in this country to throw doubt on parthenogenesis, or he is not so well informed as he might be. The glaring errors in his communication point rather to the latter alternative.

But if Mr. Thomas has demolished the Dzierzon theory, he has not failed to give us another theory equally original. He says:

> It is admitted that the queen is reared upon a peculiar food with her tail up and her head partly down, and that she is a full female. The drone-bee is reared with his head and tail on a level and fed upon a peculiar food and is a full male. Therefore, it is the peculiar food and different position in which they are reared that creates the different sex.

Referring to this Mr. Smith swells with pride, and says:

> "Please read and see what *wonderful* talent we have in Texas. Why, just think of it, such men as Dr. Dzierzon, Prof. A. J. Cook, Dr. E. F. Phillips, and all other such noted scientists whom the whole world has learned to honor, and look up to for their great discoveries in the scientific line, are now *all* knocked into a 'cocked hat' by this man'

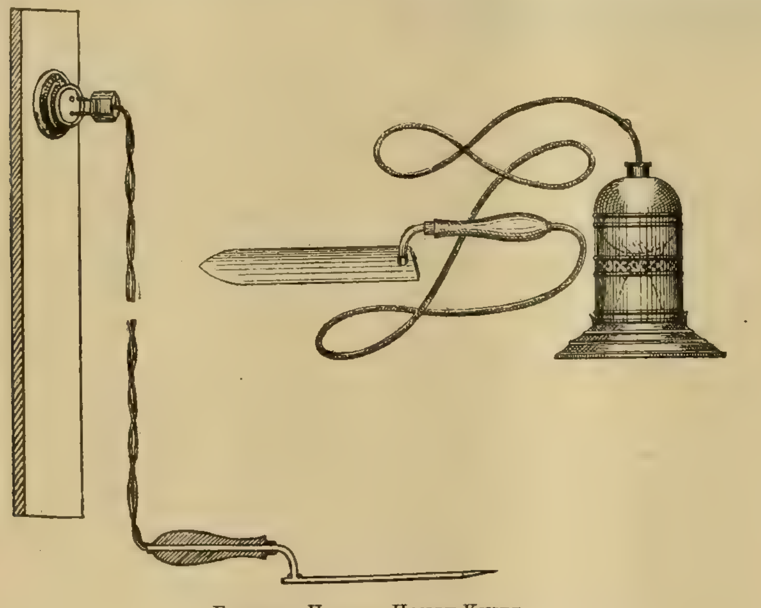
wonderful discoveries that the sex of bees is determined by the food given the larvæ!"

But Mr. Smith should restrain himself and try to be modest, for is not Texas a part of the United States? and will not the new theory belong to the whole nation?

It is sure to be the case that fuller details will be desired, for many questions promptly arise. Is it a Texas peculiarity that a queen is reared with her tail up and her head only partly down? and would it make any difference in the sex if the head were wholly down? What sex would be "created" in the drone if a drone-comb, filled with eggs or young larvæ, should be turned over so that the drone would be tail up and head down? If a queen-cell were laid on its side, as it sometimes is, does that create the male sex in the enclosed queen? And what—but perhaps it is best not to ask too many questions all at once.

Miscellaneous News-Items

An Electric-Heated Honey-Knife, of the Bingham type, is shown herewith. The engraving is reproduced from the French publication, Revue Generale Industrielle. The main advantage claimed for this heated knife is that the heat is evenly distributed throughout, and the blade is of uniform temperature. The inventor, Tonelli, lives in Italy, and the invention was exhibited at Milan this year.



ELECTRIC-HEATED HONEY-KNIFE.

◆

The Annual Poultry, Pigeon and Pet Stock Show to be held in Chicago Jan. 23 to 30, inclusive, 1907, will be an improvement on any of the series of high class shows heretofore held under the management of the National Fanciers' and Breeders' Association. The exhibits of stock, incubators, brooders, appliances, foods, remedies, and all things pertaining to the poultry, pigeon and pet stock industry have at all times taxed to the utmost the capacity of the largest hall obtainable. The attendance of visitors, always great, was phenomenally large last year. Plans are now being perfected to make the exhibition, whether from the standpoint of the exhibitor, the visitor or the management, better than ever before. Premium lists giving names of judges and the varieties to be passed upon by each of them, and all necessary information to intending patrons, were issued about Dec. 15, 1906. Twenty thousand will be mailed out, and it is the intention to have one sent to every interested person, but if for any reason it is not received, or additional copies are desired, write to the secretary, Fred L. Kimmey, 325 Dearborn St., Chicago.

◆

A Record Swarm.—Hon. Eugene Secor, of Forest City, Iowa, sends us the following clipping from the St. Paul Despatch, which is almost too ridiculous to be amusing:

> We very frequently hear of snake and fish stories, and sometimes a pretty good bee-story is told. Our friend, Bill Heflin, hardly ever relates anything unless he knows what he is talking about, and all who know him won't question his veracity one moment, or doubt the correctness of any story Bill may tell if he claims he has a personal knowledge of anything connected with it.
>
> A few days ago Mr. Heflin and Squire O'Bryan were talking about bees and the manner of swarming, and Mr. Heflin was reminded of the immense swarms he once saw in Missouri. It was during the time Bill was down South fighting for his country, and along about the last of that sanguinary conflict, when Bill saw that the Southern boys had to surrender to superior numbers that he saw the big swarm of bees. Bill says one day while marching up the Mississippi valley with his command, he saw bees swarming out of a hole in a big cliff. The hole, he says, was about three times the size of a hogshead, and the bees filled the entire space and had the appearance of a black cloud coming out of a hole. He did not know how long the bees had been coming out of the hole, but the swarm was 2 miles wide, 1½ miles thick, and 20 miles long, and that they were 2 hours in passing a given point, Bill did not go into particulars as to how he got the dimensions of this great swarm of bees, nor when they settled, but he says the hole was left in the cliff, for he saw it after the bees had vacated it. This is the biggest bee story we ever heard, and it seems too big to be true, b Bill declares that his command was not on a retreat when he saw the swarm.—Huntsville (Mo.) Herald.

◆

Bees Close a Mine.—Mr. Fred H. May sends the following newspaper clipping telling how myriads of bees closed a mine:

> There are instances in great number where mining operations were temporarily suspended by a shortage of funds, or by water flooding the property, but it remained for Mohawk, a small station along the Southern Pacific, to furnish a new cause which is unique in the history of mining. The company affected owns the Red Cross mines in the Mokawk Mountains.
>
> Millions of bees, attracted by the water at these mines, and forced from their hives in the mountains by the drouth, took possession of the water supply, and their numbers were so great that it was found impossible to drive the swarms away. Consequently the mines have been shut down until the rainy season sets in, when it is hoped the bees will return to their mountain homes.

Perhaps there is a reader of this Journal living near the mine referred to, who can verify its reported closing by the bees.

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 70 cents; 100 for $1.25; 250 for $2 25; 500 for $4.00; or 1000 for $7.50. Your business card printed *free* at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.

◆

San Antonio Photograph.—We have some of the San Antonio convention photographs, showing over 100 of those present at the National convention. We are sending them out in mailing-tubes at 60 cents each, postpaid. Send orders to the office of the American Bee Journal.

Contributed Articles

No. 22.—Dadant Methods of Vinegar-Making With Honey

BY C. P. DADANT

Some time ago, through the courtesy of Mr. A. E. Vinson, I received a small pamphlet entitled, "Timely Hints for Farmers, No. 60," published by the Experiment Station of the University of Arizona. The special subject of this No. 60, is the manufacture of honey-vinegar. It is replete with good ideas and practical information. One thing attracted my attention. It is the comparison of different samples of vinegar as to the amount of unfermented matter in proportion to the acetic acid in each sample. I submit the table:

COMPOSITION OF ARIZONA HONEY-VINEGAR.

	Acetic Acid	Unfermented Matter	Ash
	Percent	Percent	Percent
(1) Fort Lowell.	2.11	0.87	0.29
(2) Phœnix.	4.24	22.81	0.39
(3) Buckeye.	3.81	6.58	0.44

No. 1 is a vinegar, 6 months old, in which the honey is nearly all fermented to alcohol, but is still undergoing acetic fermentation.

No. 2 is a very striking example of the loss of saccharine matter. Alcoholic fermentation is very seriously retarded by even small percentages of free acid, and in this case it is doubtful if any of the remaining sugar ever becomes vinegar. Furthermore, the unfermented honey sweetens the sourness to such an extent that it tastes but slightly more acid than a vinegar of half its actual strength.

No. 3 also shows considerable material which escaped fermentation. This is often due to adding fresh washings to partially made vinegar. The alcoholic fermentation must, in all cases, precede the acetic, for even small amounts of acetic acid greatly retard or entirely prevent the activities of the yeast cells. In other words, acetic acid is a direct poison to yeast, and no further addition of washings or honey should be made.

The above description is taken from the pamphlet. The conclusions are so much in accord with my experience that I can not help calling attention to them. Too many people try to make honey-vinegar without the previous alcoholic fermentation.

To make good vinegar the sweetened water must undergo alcoholic fermentation first. The more thorough this fermentation is, the better and stronger the vinegar will be, because a thoroughly fermented article turns to vinegar more easily than a sweet drink. It is not advisable to allow the honey-water to take its chances on fermentation. It is true that honey usually contains germs of fermentation, which are gathered with it from the flowers, but those germs are of different kinds. It is always best to use some kind of yeast to start the alcoholic fermentation. This pamphlet recommends cake yeast. Personally, I much prefer the fermenting germs of fruits, especially of grapes.

My readers are not ignorant of the fact that the highest grade of vinegar was originally made from grape-wine. The name "vin-aigre" is French, and signifies "sour wine." We can therefore make the best vinegar from the natural yeast of grapes. A few pounds of grapes, crushed, for a barrel of vinegar, will start an alcoholic fermentation much resembling that of wine. If the temperature is right, and the proportion of honey and water of the right degree, a prompt and thorough alcoholic fermentation will follow very shortly, and as soon as it is over the acetic fermentation may be induced by the use of vinegar or vinegar-mother. For both the alcoholic and the acetic fermentations a fairly warm temperature is necessary—from 75 to 90 degrees. At lower temperatures the fermentation is slow, and when very low it ceases altogether.

This pamphlet recommends the most speedy method, which consists in allowing the vinegar to trickle slowly through the shavings made of beech, which have been prepared by soaking in strong vinegar. The purpose of this is to allow the air thoroughly to oxidize the liquid, for it is only by the action of the air that the development of the ferment can take place. Any method which exposes the liquid to warm air while the process is going on will accelerate the fermentation.

I have thought best to bring this matter again to the attention of the readers of the American Bee Journal, because I have had an occasion to examine different samples of vinegar lately. I was selected as judge of the bee and honey exhibit of the Illinois State Fair this year, by the action of our State Bee-Keepers' Association. Among other premiums there was one for the best honey-vinegar. Of the 6 or 8 samples exhibited, only 2 were entirely devoid of a perceptibly sweet taste. Two samples contained, to my judgment, more honey than vinegar. It is evident that none of the exhibitors had realized the necessity of causing a thorough alcoholic fermentation in the liquid previous to the acetic fermentation. The conditions required by the premium list demanded that each exhibitor of vinegar should supply with the sample a written recipe for making the vinegar. In not a single instance did the recipe contain instructions for providing some kind of yeast or germ to start the first fermentation.

I must here add that it is possible to prepare honey-water in which the elements of fermentation are entirely absent. My first attempt at making honey-vinegar, years ago, resulted in a dead honey-water. I had used the very best of clover honey diluted in clear water, and had put it away in a warm cellar in earthen jars, in full confidence that I would soon have good vinegar. Six months afterwards my honey solution was still sweetened water, with a moldy scum over the top of each jar. Air was not lacking, but the fermenting germs evidently were absent. At the suggestion of my father I added some grape-juice, poured the entire lot into a barrel, warming a part of it sufficiently to bring the entire mass to about 75 degrees; within 24 hours the liquid was fermenting, and within a few days it was thoroughly fermented and beginning to sour.

To make good vinegar we must have clean honey, soft water, and good, clean barrels. In many instances our farmers spoil their wine, their cider, or their vinegar, by using musty barrels that have been kept in a damp place without proper care. If you have no barrels in which to make the vinegar, buy empty whisky barrels or syrup barrels iron-bound, which still have the smell of the whisky or of the syrup, and fill them at once with your solution. If you wish to keep the barrels pure and wholesome after they are empty, cleanse them first thoroughly. A small piece of chain tied to a string and lowered into the barrel, the string holding through the bung hole, will help cleanse every corner. Put in 3 or 4 gallons of hot water, put the bung in and shake thoroughly. After the barrel is clean, drain the water and allow it to remain, bung down, for 2 or 3 days until it is dry. Then lower into it a small piece of brimstone-rag lighted with a match. When it is burnt out bung the barrel tight and you may trust it to remain sweet till the next season.

Brimstone rags are made by melting brimstone over a fire in an iron skillet, and dripping strips of cloth into the liquid sulphur. These rags may be kept on hand for this purpose, as well as for killing the moth. The rag serves as a wick, and the brimstone is much more easily handled in that shape than in lumps. We keep them on hand all the time.

Hamilton, Ill.

The Stinging Bug—Bee-Enemies

BY PROF. A. J. COOK

"Subscriber," at St. Charles, Ill., asks about a little bug that he found devouring a bee on a yellow flower. This is none other than the insect named at the head of this article—Phymata erosa. It is fully described and as fully illustrated in my book, "The Bee-Keepers' Guide." This insect is a wonder of strength, for though very much smaller than the bee, it is yet able to catch and hold his victim until he has sucked it bloodless, when he casts aside the carcass, to catch others, until his appetite is fully satisfied. I used to see these plying their deadly work very often when I was in Michigan, though they, no doubt, kill many injurious insects, and so I have always inclined to the opinion that they were, on the whole, our friends.

These bugs are interesting from the fact that their front legs are converted into very efficient jaws. The femur opposes the tarsus and both are toothed, and we can understand how, from this jaw-like arrangement, a little bug the size of the house-fly can hold a big bee till it sucks it lifeless. The hard crust of the bug doubtless protects it from the weapon of its victim. With one of these jaw-like legs it can grasp the bee, and with the other it can hold on to the plant.

This bug illustrates well the fact of mimicry. It is greenish yellow, and usually hides in various plants of the Compositæ, like the goldenrod, coreopsis, etc. We can hardly double that so brainy an insect as the bee would learn the character of this stinging bug, and would steer clear of him, unless in some way the bug could hide from the bee's keen vision. From the color of the bug it can effectually hide from its coveted prey, and thus the bee is taken wholly by surprise. This possession of mimicry helps many an animal to get its breakfast, that otherwise would needs go hungry through the day. The white polar bear illustrates the same thing, as from his white color he is hid on the snow-fields. It is also the fell destroyer of many another animal that by it is entrapped, which otherwise would escape capture and death. Is not this why our weasel is white in winter and brown in summer?

Other Stinging Bugs.

The so-called "kissing bugs" are of the same habits, in a way, as the Phymata. They belong to the same order of insects, and have, like the other, a very formidable beak, which enables them to make a stinging wound, even very painful and disturbing to man himself. There are several of these so-called "kissing bugs," and one of them here in California is quite handsome, as it is decked in bright hues of brown and black, though most of them are black. All of them are possessed of a long, narrow head. They annoy us more, as they occasionally crawl into our beds and thus are ready to give the painful puncture, which so much annoys the person stung. Fortunately, they are not common enough to cause much harm or dread. I have known of three persons being stung since I came to Claremont, 12 years ago, and these were in places wide apart. I think they are about as common East as West.

Other Bee-Enemies.

The Mantis—Praying Mantis— is another enemy of bees, that is often seen killing bees in Florida and other Gulf States, and so on west to California. It also has jaw-like legs like the Phymata. It is large and we can not wonder that it is able to kill the bee and even larger insects. It takes the name of "Praying Mantis" from its peculiar attitude, because of its jaw-like front legs. It is often on its knees, and as it raises its legs it reminds one of a man as he raises his arms in supplication. Of course, the name "Preying Mantis" would be equally appropriate. This insect does not suck its victims dry as does the bugs, but has strong, formidable jaws, and eats its victims. I think these are more friends than enemies, as they kill many of our worst insect pests.

The Dragon flies are also pests of the bee-keeper. These are large and voracious. They no doubt kill many bees, but they also are enemies of our insect pests, like the others.

I think the great robber-flies are probably our worst insect pests in the bee-yard. They kill many bees, but when we have bees by the thousands, the few hundreds that these bee-killing insects victimize cuts no very serious figure, especially as they are ever watching to rid us of our insect foes as well. These several insects are described and figured in my "Bee-Keepers' Guide," in a way to enable any one to identify them.

Nectar-Secretion Erratic.

Last year there was a fine rain in Southern California, and so the bee-keeper had a right, and reason, to expect a fine honey-year. And so he did in many sections, while in others there was no honey at all. In some there was a fairly good crop. It would seem hard to acount for this erratic condition of nectar-secretion.

California had a very rainy, cloudy, cold spring. This, no doubt, acts in two ways to lessen the honey crop: It causes the secretion of less nectar, and at the same time keeps the bees in the hives, or from the fields.

It would seem hard to account for the fact that some get a good crop. May this not come from a peculiar configuration of the country, so as to shut off cold winds, that blast the flowers, or dry up the nectar, and at the same time keep the bees from the flowers, were there any nectar to collect?

It is evident that we must have water in the soil for the plants, warmth to produce the nectar, and genial weather for both flowers and bees, or we can not hope for a full success. Cold rains or fogs are especially inimical to a full honey crop. Mr. Doolittle has been a very close observer all these years, and I am sure we would all appreciate an article from him on this topic.

German Scientists.

I see that our friends "over the sea," criticise my reference to Dadant and Grimm, etc., as exceptional men from Europe. I do think that we in America are far in the lead in practical matters. We are, of course, greatly indebted to such men as Huber and Dzierzon for their great work and discoveries. The German and French scientists have greatly enriched the world by their brilliant discoveries, and no country can hesitate to acknowledge its indebtedness to them. I think we are ahead in invention, on the whole; yet, in discovery of scientific principles, we can give them a place among the very first.

Claremont, California.

Overstocking and Location

BY G. M. DOOLITTLE.

A correspondent wishes me to give, in the American Bee Journal, my views on overstocking a location with bees, and also what kind of a location I would choose for successful bee-keeping. My views on overstocking may not be considered quite orthodox by all, yet I think I can give facts to prove my position. If I had a really good location I should not fear overstocking it with from 300 to 400 colonies, but I think that from 150 to 200 would be as many as an average location would support to the best advantage, while there are doubtless places that 50 colonies would be as many as would give good results to their owner.

When we take into consideration that bees fly from choice, from 2 to 4 miles from home, and are led on by receding bloom to 5, 6 and even 7 miles, this matter of overstocking is not so much to be feared as some seem to suppose. I know that we have often been told that bees do not go more than 1 ½ miles from home, and, if they did, it could not be made profitable, as so much time would be consumed in flying, that it would not pay. But plenty of proof can be given that bees fly more than that distance. Allow me to give some of the experience along this line which has come under my observation.

When the Italian bee was first introduced into these parts, the man who bought them lived fully 3 miles from my home in a "bee-line." That year he Italianized all the colonies he had, so that the next spring his apiary numbered from 40 to 50 colonies of Italians—the only bees of that kind there were within 50 miles of this place. I was exceedingly interested in these bees, but did not think I would invest in them till I found out what his would do.

One fine morning during apple-bloom I went into the orchard to see the bees at work on the blossoms, as the orchard was young, and the limbs low, so that the bees were in easy reach of my vision. The second bee which came under my notice was an Italian bee. I now became all interest, and I found by actual count that every 5th bee at work on this bloom was an Italian bee, when an average was taken in counting 100. And this with apple-blossoms in profusion everywhere, and 200 to 300 colonies of black bees within 1½ miles of this orchard. These facts I jotted down in my diary, where I find them today, under the date of May 24, 1870. This fact influenced me still more favorably toward the Italian bees, and I went to see these bees at work in their own apiary. I found them at work industriously, and very pretty to look at, but concluded not to be too hasty in purchasing them.

About this time it was told in the

"Old Reliable," that Italian bees would work on red clover to much better advantage than did the blacks. As we then had thousands and thousands of acres of red clover around us, I was again interested. The next day, after reading this, I was at work cutting red clover in a 10-acre field, for hay. This field was one mile from home, and that mile was so much further from this apiary of Italian bees, or this particular field of red clover was 4 miles in a direct line from these bees. When I thought the horses needed a little rest, I went into the standing clover, and the first count of the bees at work on the bloom was 10 Italian bees to 4 blacks out of a count of 14; and this with fields red with clover in every direction. I hesitated no longer, but went to see the owner of these bees, and before night of that day I had 2 Italian queens in introducing cages in 2 of my best colonies, which led to my adoption of the Italian bees as "the best bee in the world," a year or two later, since which I have had no others except to try a few of each new race as they came into the United States.

From the above it is entirely evident, to my mind, that those who claim that bees do not go over 1½ miles from home are not fully informed on what they are claiming. To the objection that it is not profitable for bees to fly so far, I wish to give a little more of my own experience and observation:

To the southeast of my home the land rises gradually for 5 or 6 miles, and at the end of this distance it is 800 to 900 feet higher than at the apiary. Unless interrupted by a long rain the bees follow the receding basswood bloom till the top of this hill is reached, when I frequently have them work from 5 days to a week on the bloom on the top of this hill, and as far as I have ever been able to see, they do so to nearly or quite as good advantage as they did when the bloom was open all about the hives. Of course there is a chance to be deceived a little here, for the same amount of nectar coming in the hives at the close of a long harvest, will count for more than it will at the commencement; for in the commencement much more nectar is used in the construction of comb, and in commencing business, than there is when the combs are nearly completed, and the bees are capping up the last honey put in nearly finished cells.

Choosing a Location.

Now about my choice of a location: If I were at liberty to choose a location where I desired, and could find such a one, it would be in a place where the land sloped gently to the southeast, with pasturage as follows:

Some willow to stimulate early breeding, with sugar or hard maple to follow; then apple-blossoms, as an assurance of plenty of stores from apple-bloom to white clover, which latter, should be in abundance. Next I would want plenty of basswood, and that on a hillside, or extending from a valley, in which the bees were situated, up the sides of hills or mountains, with plenty at the top, so as to prolong its bloom; and, lastly, where buckwheat and fall flowers were in abundance.

But the most of us have other ties besides the bees that fix our location, and so we have to put up with such a one as we have, and the man or woman is to be honored that can be contented and bring about good results with only limited bee-pasturage at his own home, where duty calls him or her to remain.

If I could have but one of the above-named sources for honey, I would select basswood first, clover second, and buckwheat as third. From all sources of information I can gather, basswood is the greatest honey-producer of any nectar-secreting flower there is in the United States, for the length of time it is in bloom; and if the foot of a mountain, the sides of which are covered with basswood trees, can be our location, we shall have no reason to complain of the length of time it is in blossom. Then basswood comes in bloom so late in the season that nearly all colonies can be brought up to their maximum strength, before the first bloom opens, which cannot be said of its rival, white clover.

Borodino, N. Y.

Our Bee-Keeping Sisters

Conducted by **Emma M. Wilson**, Marengo, Ill.

Cleaning Sections of Honey for Market

With the remark, "Here, I'll let you reply to this, seeing it refers to your work; and cleaning sections is properly a woman's work, anyway," Dr. Miller handed me the following letter which I have read with amused interest:

Dear Dr. Miller:—In the American Bee Journal, pages 786 and 787, in answer to the question, "How many cases of 24 sections does your best hand clean in a day," etc., you give the answer that 3 years ago Miss Wilson scraped 2016 in a day, besides doing all the work of taking out "the supers, etc., and that an average work for a day for an average worker would be perhaps 1000 sections, or, in Colorado, perhaps 960!"

I frankly confess that these answers are absolutely *stunning* to me, and not only to me alone, but to all my neighbors who work comb-honey apiaries in this part of California. We are absolutely unable to understand how it could be possible to perform such feats as that of Miss Wilson, or even only 960 for Colorado workers.

Last year, for instance, when we had a pretty nice and lively honey-flow, and the bees carried in the honey very fast, and consequently the supers did not remain so long (perhaps 8 to 10 days) on the hives, we here considered 4 cases — 96 sections — cleaned and scraped *properly*, as a pretty good day's work, say from 8 a. m. to 12 m., and from 1 p. m. to 5 p. m., and keeping at it steadily. And *this* year, try to do the best we can, it's hardly possible to finish properly more than 3 cases. True it is, the sections, having to stay so long in the hives, are much propolized, ugly and dirty, and by no means filled out properly, so that any amount of careful scraping of tops, inside bottoms, and the corner passage-ways has to be done. Now what, under these conditions, would you call a good average day's work?

It makes us simply smile, when we read in bee-books: *One* stroke of the knife cleans the propolis from each side, etc., and we often say: If only the man who wrote *that* could show us how *he* would *do* what he asserts! There are at least 16 strokes to each side (front and back); for two, 32. Then the two outsides and bottom and top to be cleaned of propolis, and the *tops here* are the worst to scrape, so as to make them look nice and clean, and the turning and placing to and fro on the table, and consequently a goodly number of strokes and movements—and multiply that by 960, or even by 2016—well! My hair stands up, and I wonder!

Now, really, is not there somewhere a little error as regards the figures you give?

For a better understanding, permit me to mention that I, like my other neighbors, work the regular 4¼ x 4¼ sections in 24 section supers, wood or tin separators, and sometimes do some tiering up to 3 supers, but never more.

I know that bees propolize more in some parts of the country than in others. Do you think that hybrid bees propolize more than pure Italians?

(If we should have a real good honey-flow next year, I suppose that we could make up a purse so as to make bold to offer an inducement to any champion section-cleaner who should guarantee to us that he would clean and scrape only 1-2 or 1-3 of the figures you give.)

Anyhow, it may appear to you that 4 cases, and this year only 3 cases, is a very, very little day's work—just the same as your figure of 960—and then Miss Wilson's performance appears to us here as an almost impossible feat. What, then, is the reason that such enormous difference can exist? And the next question is: What is considered a clean and properly scraped section?

San Diego Co., Calif. M. B. C.

I imagine the difference in a day's work is largely owing to the different methods used in cleaning sections. You, Mr. C., if I understand you rightly, clean your sections singly, while I clean the largest part of mine in the bulk, or a whole superful at one time. That is, I clean the tops, bottoms, and part of the outside edges while the sections are still in one solid block. We use the T-super, which admits of dumping the sections out in one solid block, leaving them upside down on a board or plain hive-cover. The T-tins are lifted off, and the super replaced by a box without top or bottom, that is, it is much like the super, only it is perhaps an inch longer, an inch wider, and an inch shallower than a T-super, the exact size not being important. A piece of board is wedged into one side, and another into one end, so as to hold the sections solid. Now I am ready to scrape.

The best thing I have found for scraping is a steel cabinet scraper, 3 x 6 inches. The bottoms of the sections are first scraped, then sand-papered with No. 2 sand-paper, and the edges that are exposed are also scraped, as it is much easier to clean them when they are all wedged up tightly. A board similar to the one under the sections is now placed on top, and with one hand under the other board, and the other over the upper board, the whole thing is turned over. Now the tops of the sections are scraped and sand-papered, as also all edges exposed. Now the wedges are taken out, the box removed, and the boardful of sections is slid along the table. I usually get 5 or 6 boardfuls ready in this way, then finish scraping the edges with a knife, of course, taking the sections separately for this purpose. But you will see that this last finishing-up of the edges is a small part.

The important part is cleaning the tops and bottoms, and you will easily see what a great advantage there is over cleaning section by section if one can have a full chance at 24 at once, for every sweep of the scraper takes several sections.

But there is a still greater gain in another direction. When 24 sections are wedged up in one solid block, 2 or 3 times as much strength can be put into each stroke, making the work just so much faster. The same amount of force on a separate loose section would smash it.

Practice, of course, makes much difference. I have cleaned many thousand sections. Dr. Miller thinks he could not do half as many in a day, having had little practice, and perhaps there is something in his idea that a woman's fingers are better fitted for the work.

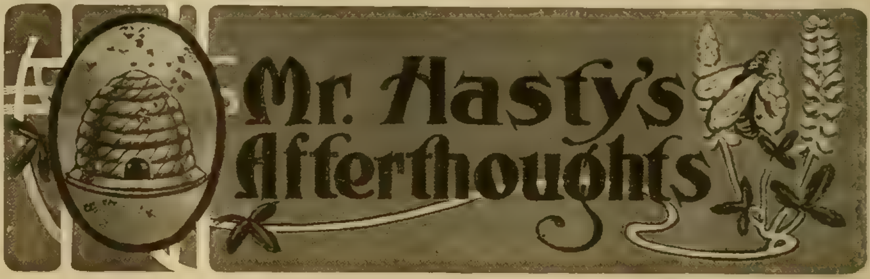
Another thing that makes a difference is the length of day's work. You count on 4 hours' work in the forenoon and the same in the afternoon. We don't exactly follow the plan of the man who said he worked on the 8-hour plan—8 hours in the forenoon and 8 hours in the afternoon—but sometimes we don't come so very much short of it when getting the crop ready for market, beginning as soon as breakfast is over and stopping when daylight stops.

No, you may rest assured that there is no mistake in the figures given. Neither is the work slighted, and this has the reputation of being a gluey locality. Of course, I don't know how much worse propolis may be at your home. From your description I think your bees make worse work inside the section than ours. Very rarely is any inside cleaning needed.

You ask what is considered a clean and properly scraped section. I scrape until I get down to clean wood. Is there any need to go deeper?

Another point of difference is the weather. You don't have as cool weather as we do. We never get our sections ready for market until the weather is cool enough for the propolis to be brittle, as a good job can scarcely be done while the propolis is sticky. Now say we have a crop of from 10,000 to 20,000 sections, and I alone have the work to do. It would seem almost hopeless if I could get ready only 4 cases in one day. Our largest crops have, I think, always been cleaned ready for shipping inside of two weeks.

Please try cleaning by the superful as described, using the T-super, and then say if you think 4 cases is a fair day's work.



Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses,
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

SIZE OF LARVA AT DIFFERENT AGES.

Sure! The importance of those little paragraphs on page 877. Larva 3 days old still extends only ¾ the diameter of the cell-bottom. Not till the fourth day does it get to touch the cell-walls. I needed this teaching as well as the juniors. It some one had pumped me on that point I should have guessed its progress more rapid.

DRONES FOR QUEEN FERTILIZATION.

If Canada, on page 918, will look on page 950 he will find one of the "whacks" he was longing to have me take—against the idea of devoting 10 colonies to the rearing of drones and not much else. Queens not fertilized by "little-behind-hands," no matter how numerous they may be.

MATING QUEENS IN THE MOUNTAINS.

It seems that not only islands and deserts, but also some mountains, can be utilized for the absolutely correct mating of queens. Very interesting trials are mentioned by C. P. Dadant, on page 930. With both sexes reared in the vale before going up, only 3 became fertile out of 20. With both sexes reared on the mountain, 11 became fertile out of 13. And up there even queenless colonies killed off drones after awhile.

STARVE BROOD RATHER THAN UNCAP HONEY.

As weighty an authority as McEvoy feels sure that bees will often starve their brood rather than uncap stores if they run out of unsealed honey when the fields are yielding none. This is important, if true, and should be kept in mind, at least. Page 953.

GETTING COMBS BUILT TO BOTTOM-BARS.

Mr. Doolittle, after telling how to get brood-combs built down to the bottom-bar (putting them temporarily into a super during a good honey-flow) says we are rid of the nuisance of an open space between comb and bar after that. Seems to me that is a little too optimistic. How long does it take the bees to scrape it all open again? The closure might be permanent if the honey-flow was permanent, and new wax being secreted during the entire breeding season. Most of us lament that we don't have that kind of a locality. It takes a great deal of material to cap even my 147,000 head of brood. If I am right, bees have an inveterate habit when no new scales are at hand, of going to the bottom of the comb and scraping up wax to use in the cappings. The result is that the bottom space when banished returns again in time — more quickly in poor locations, probably. Page 948.

WANDERING SWARMS AND BEE-LAW-SUITS.

I have a strong opinion, if not evidence, that wandering swarms from elsewhere often follow the lines of flight which the bees of a big apiary take—and on arriving at the apiary they alight nearby. If this is right there is quite a shade of possibility that it wasn't Morley Pettit's bees at all that stung Mr. Lucas' team to death. That jury seems to have told the bee-keeper to pay $400 when he had not done anything, or omitted to do anything—and, further, didn't even require full proof that he was the right man. We'uns shall have to look a little out if that kind of juries get plenty. Page 930.

Definition of Honey.

That finished and official definition of honey. If I cut it out I shall lose track of the clipping; and if I don't cut it out I shall soon be unable to find it. What can I do? I'll sequestrate space in this department to say, "Official definition of honey on page 927." Then I will at least have two chances of finding it instead of one. And thanks to the Bureau for the merciful qualification about small percentages of sweet which are of insect origin.

How and When Bees Build Certain Cells.

Have my doubts, Arthur C. Miller, whether a bee ever wishes to build, or tries to build, a round cell. 'Spects bees know some things without being driven into everything by automatic forces. And some might charge you with trying to revive the stupid nonsense of Prof. Agassiz, that bees stand in the cells while they build them—but I guess you don't mean that. The thought in your article which I pick to dwell on, is that bees build drone-comb when restless, and that to change the restlessless to quiet is to change from drone-comb to worker. Better we find out if that is really so—and then get some profit out of it, somehow. Page 912.

Bee-Moths and Bees.

In the scrimmage between Mr. McDonald and the Australian Bee-Bulletin, one item seems to have been overlooked. That *bee-moths* ate out 40 colonies of bees of any sort does not *sound* very much like the exact truth. Page 909.

Strenuous Bee-Keeping—Reuniting Old Colony and Swarm.

So Adrian Getaz would "take 'em up" and—let 'em down again, just in time to save their lives—as one step to finding queens in box-hives. Pretty "strenuous" sort of bee-keeping that.

Glad to learn that reuniting old colony and swarm 8 days after hiving works and is practical in extensive regions. With me the old colony swarms 15 or 16 days after prime, and therefore I guess the manipulation named wouldn't be reliable for me much before the 20th day. Page 912.

Southern
Beedom

Conducted by **Louis H. Scholl**, New Braunsfels, Tex.

Races of Bees—Queen-Mating—Cotton as a Honey-Plant

Mr. Scholl—I notice that you discuss Holy Land bees in the American Bee Journal of May 24. I would very much appreciate it if you would discuss Cyprians, Carniolans, and Caucasians, in a similar manner, mentioning their respective strong points and weak ones, merits and otherwise. I notice that Frank Benton, in his treatise on "The Honey-Bee," gives the Cyprians a very high place as honey-gatherers. How would they do for a beginner who is not very much afraid of stings?

I also notice A. I. Root gives Caucasians quite a puff. How would they do for a beginner who wanted to multiply colonies? In your experience are they good honey-gatherers? How about a beginner getting queens of each of the above mentioned three races, and trying them, and then settling on the one best liked? My nearest bee-keeping neighbor is a little over ¾ of a mile distant. Would there be any danger of my bees crossing with his, if I didn't let any swarm escape? I don't want to introduce an undesired cross among my neighbor's bees.

One reason I am inclined to try Cyprians is that Mr. Benton says they are courageous to work during a scant honey-flow, and are prize honey-gatherers; and we have drouths here, as you do there, I suppose, during which the nectar-supply is scant.

There are 500 to 1000 acres of cotton land in reach of my bees. Would you say that ought to give them a good supply of honey? How do you estimate cotton as a honey-producer?

"Santa Anna."

Your suggestions in regard to the discussions of the various races of bees are much appreciated. It has been my desire to take up each race, as I have found them in actual experience, and this will be done in subsequent articles.

The Cyprians are good honey-gatherers and keep their colonies strong for any emergency flows; in fact, they resemble the Holy Lands, already described, in this and many other respects. But for the same objectionable reason, their irritable temper, which far over-weighs their good points over other races, the Cyprians have not become very popular. Since you do not fear stings you might give them a trial and test them yourself. By procuring a few queens of each race a fair decision should be arrived at, especially as "many bee-keepers have many likings."

The Caucasians have not been tried enough by me to decide upon them as honey-gatherers, but they seem to hold themselves well with the Italians and their common crosses in the same yard. I like their gentleness, which struck me very much since I first saw and handled them in Colorado, in 1902.

I am contemplating the requeening of all of my apiaries—a dozen in number—the coming season, and am giving the different races of bees much thought. It is not an easy matter to decide upon which would be just the right one for each of nearly a dozen different locations, differing from each other in many respects. Probably all of the races will be tried, and reports later should be of some interest.

Your drones would fly and mingle with those of your neighbor's ¾ mile away, and the chance would be that they would cross with queens of his apiary. There should be a distance of at least 3 miles.

Regarding cotton as a honey-plant, there are many factors that must be considered, as it does not yield nectar in all localities and under all climatic as well as atmospheric conditions. In a subsequent article or two, cotton as a honey-plant will be discussed more fully, as this subject is of interest to many readers. Under favorable conditions, and in localities where cotton yields nectar, 500 to 1000 acres would be enough for a fair-sized apiary; but not knowing enough of your locality, it is impossible for me to say whether this would be of any value for your bees.

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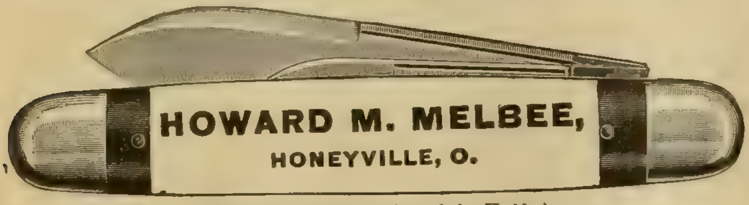

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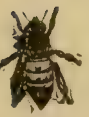
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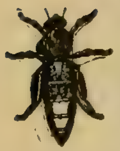
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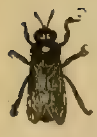
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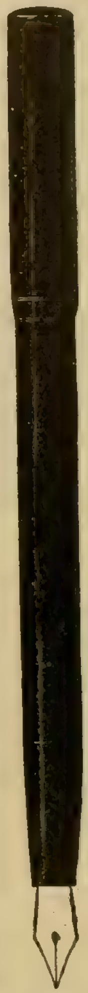
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LILLIAN E. TRESTER, *Sec.*
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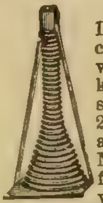

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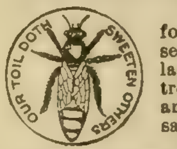
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Index to Volume XLVI.

SUBJECTS

About a bee (poem)... 729
Absconding swarm... 846
Adult bees and foul brood... 214
Adulteration... 506
Advanced bee-culture... 117
Advertisements valuable as history... 508
Advertisers and subscribers—claims of... 441
Advertising and marketing of honey—systematic 80
Advertising honey and the National Association 198, 291... 839
Advice—repetition of good... 117
Afterswarm of thought—an... 898
Afterswarms... 657, 671
Agricultural Association Acts... 487
Albino bees... 409, 488
Alcohol and barium chloride tests for glucose in honey... 275
Alcohol and poorer grades of honey—denatured 501
Alfalfa... 688
Alfalfa growing in New York... 158
Alfalfa hay and honey in Colorado... 117
Alfalfa—nectar-yielding captiousness of... 13
Alfalfa—prejudice against bees working on... 104
Alfalfa—value of bees to... 278
Alley and his queen comments... 619
Alley's two queens... 598
Alsike and sweet clover in Canada... 361
Alsike clover and diseases... 98, 653, 844
Alteration of the brood order... 348
American-Italian bees—improving... 165
American methods in Europe... 98
Anchoring hives... 993
Anemia and baby food—honey for... 466
Anti-swarming treatment... 5
Ants—getting rid of... 32, 758
Ants in hives and honey... 85, 276, 509
Ants—keeping honey away from... 802
Apiarian comments and experiences... 70
Apiarian discoveries—keeping mum on... 916
Apiarian experiments in Canada... 341
Apiarian experiences—some recent... 799
Apiarian oddities—clipping and filing... 187
Apiarian readers and reading... 254
Apiary ground-room—economizing... 633
Apicultural associations... 835
Apicultural knowledge—means of diffusing... 49
Apiculture—experimental... 663
Apiculture in the schools... 881
Apidæ family... 294
Arizona—honey-yields in... 849
Aspinwall non-swarming hive... 467
Australian honey in Britain... 616

Baby nuclei... 140, 297, 448, 488
Baby nuclei and queen-rearing... 70, 196, 215, 680
Bait-sections... 558, 787
Banat bees... 409
Barb-wire for apiary fence... 32
Barrels for honey... 104, 849
Basswood bloom?—what destroys... 70
Basswood honey—ripening... 308
Basswood trees—age of nectar-yielding... 236
Bee and honey pedigree (poem)... 12
Bee and the flowers (poem)... 617
Bee-brushes... 143, 173
Bee-cellar—a good... 277, 596
Bee cranks—full-blood and other... 525
Bee-diarrhea... 329
Bee-disease—perhaps some new... 900
Bee-farmer... 736
Bee-gloves... 867
Bee-hives and beet-sugar in Germany... 139
Bee-hive—the best... 54
Bee-keepers' exhibit at the San Antonio Fair... 1003
Bee-keepers—first studies for young... 179
Bee-keeper's fun... 448
Bee-keeper vs. saloon-keeper... 751
Bee-keeping—ancient and modern... 301
Bee-keeping and fruit-growing... 233
Bee-keeping and other rural pursuits... 815, 901
Bee-keeping as a recreation... 28
Bee-keeping a specialty... 721
Bee-keeping—business end of... 836
Bee-keeping—elementary directions in... 406
Bee-keeping for women... 182, 865

BEE-KEEPING IN—
  Arizona... 638
  Arkansas... 127
  Australia... 616
  Austria... 616
  California... 410, 1002
  Colorado... 597
  Georgia... 556, 966
  Germany... 616
  Jamaica... 83
  Japan... 613, 786
  Missouri... 107
  North Dakota... 165
  Texas... 31, 525
  The Alps... 118

Bee-keeping in the public press... 480
Bee-keeping moving toward the South?... 1019
Bee-keeping—short cuts in... 561
Bee-keeping—specialize in... 506
Bee-larvæ or pupæ—throwing out... 276
Bee-literature... 297, 755
Bee-men and bees... 126
Bee-moth... 733, 847, 1051
Bee-moths destroying combs... 917
Bee-moths—worm and roaches... 488
Bee-nature—studies in... 237
Bee-noises—strange... 867
Bee of the future—how to breed... 324
Bee-papers... 97, 210, 881, 488, 884
Bee-paralysis... 137, 144, 307, 359, 486, 598, 720, 1034
Bee-paralysis—salt for curing... 107
Bee-problems... 275
Bee-products in Arizona... 638
Bee-puzzle—not a hard... 526
Bee-repository... 213, 274
Bee's acute sense of smell... 559, 578
Bees and alsike clover seed... 122
Bees and honey... 347, 672
Bees and poultry... 1002
Bees and pumpkin-growing... 881
Bees and queens... 601
Bees an interesting subject... 235
Bees as fertilizers of blossoms—value of... 388
Bees attack a woman... 832
Bees building comb over wires... 482
Bees carry eggs... 238
Bees carrying in pollen... 11
Bees carrying water at night... 723, 846, 883, 968
Bees close a mine... 1046
Bees conversing... 365
Bees destroying queen-cells with live queens. 505, 656
Bees do nothing invariably... 12
Bees don't puncture fruit... 653
Bees gather honey in winter... 406
Bees going into top of hive... 142
Bees hanging out... 508
Bees in the cellar... 1002
Bees leaving hives in winter... 52
Bees mixing when taken from cellar... 717
Bee-smoker points... 84
Bee-smokers... 142
Bees mourn their keeper... 1013
Bees moving eggs and larvæ... 84, 164, 218, 307, 368
Bees of the South in winter... 982
Bee-space... 137, 162, 897
Bees robbing or playing... 985
Bees seize and hold a village... 274
Bees—species of... 15
Bees spotting hives in early December... 70
Bee-sting remedies... 690
Bee-stings and rheumatism... 753, 798, 814
Bee-stings as a remedy... 185
Bee-stings—medical demand for... 13
Bee-stings—protection against... 447
Bee-story from Vermont... 12
Bees—Texas sister's experience with... 50
Bees trying to rear a queen from a drone-larva. 707
Bees using the old comb... 761
Bees warming an empty upper story... 598
Beeswax... 87, 211, 295, 347
Beeswax—crackless cakes of... 122
Beeswax—testing the purity of... 10
Bees?—what ails the... 759
Bees?—who shall keep... 510, 346
Bees with poultry... 386
Bees—young and old... 72
Bee-territory in Australia—right to... 592
Beet-sugar as a bee-food... 139
Bee-visits for a load of pollen... 619
Bee-work—always preparing in... 327
Beginners in bee-keeping... 122, 144, 296, 406, 447, 468, 523, 597... 622
Bible references to honey... 468
Binding bee-papers... 119, 253

BIOGRAPHICAL—
  Dzierzon, Dr. John... 1031
  Johnson, J. B... 894
  Pettit, S. T... 388
  Reynolds, Alvah A... 902
  Trinder, Edwin... 183
  Woods, E. D... 902

Bisulphide of carbon in Canada... 123
Bitter honey... 489, 557
Black and foul brood... 574
Black bees... 9, 70
Black bees vs. Italians... 509, 574, 909
Blackberry honey and pollen... 524
Black brood... 573
Black clothing and bees... 447, 882, 1034
Black honey... 616
Black medick... 804
Blue aster... 869
Boll-weevils... 618
Botany—books on... 869
Bottom-boards... 53, 349, 481
Bottom-boards—painting... 449
Box-hive bees like a chipmunk... 346
Box-hives—empty... 183
Brain-work—honey for... 617
Breeding... 162, 324, 427, 562
Breeding queens... 484, 914
British standard frame... 552, 993
Brood-combs—removing... 622
Brood-diseases of bees... 976, 983
Brood—early... 441
Brood from one queen... 653
Brood-nest—retention of heat in the... 441, 482, 529... 615
Brood-nest—order of... 326
Brood or eggs... 819
Brood-periods and arrangement... 348
Brood-rearing—checking early... 426
Brood-rearing in winter... 179, 370
Brood to the top-bar in combs... 381, 466
Broomweed honey... 952
Buckwheat honey in brood-chambers... 409
Building-paper for winter protection... 864
Building up a nucleus... 738, 985
Building up colonies... 760
Bulk comb honey... 934
Bumble-bee apiarist... 506
Bumble-bees and clover... 52
Bunched swarms self-dividing?... 918
Burned while smoking out bees... 916
Burying bees for winter... 933, 985
Buying bees... 309, 523, 900
Buying, selling, and eating honey... 328
Caged queens... 722
Canada—weather conditions in... 104
Canadian bee-keeper—rising... 69
Canadian sister's report for 1905... 102
Candy for winter feeding... 53
Capping-boxes... 563
Capping of comb honey—concave... 233
Carbolic acid in bee-keeping... 618
Carload of honey... 184
Carniolan bees... 15, 26, 140
Catnip... 641
Catnip and sweet clover... 541
Catnip honey... 622, 758
Caucasian bees... 97, 98, 162, 249, 276, 307, 387, 426, 552, 622, 690, 898... 1013
Caucasian drones and workers—similarity between... 845, 899
Cellared bees... 276, 446, 785
Cellaring bees... 99, 103
Cellars for wintering bees... 915
Cellar-wintering... 73, 165
Cell-building... 1051
Cells for queen-larvæ... 1001
Cerasin and beeswax... 123
Chaff hive-cover... 802
Chaff hives... 671
Chaff-packed bees in winter... 919
Chambers (Mr.) and his helpers... 966
Changed vital conditions in 1906... 917
Changing bees from old to new hives... 409
Changing queens... 309
Cheshire theory of foul brood... 895
Chestnut bloom... 818
Chicago-Northwestern and the National... 526
Chilled brood not a cause of foul brood... 381
Choosing a location... 1049
Chrysanthemums and perfumery offered with comb honey... 556
Chunk honey vs. section honey... 622
Chyle and impulses... 407
City-lot bee-keeping... 144
Civilization's offenses... 818
Cleaning out old combs and unfinished sections... 9, 216
Cleaning sections of honey for market... 1049
Clipping and filing apiarian oddities... 187
Clipping queens... 32, 367, 429, 487
Clothing for bee-work... 449
Clover—world value of... 486
Clustered swarms... 784
Cluster—order of bees in... 406
Cocoamel... 234
Cocoon incomplete?—why is the royal... 67
Colonies to keep—how many... 964
Colorado sister's experience... 818
Color of bees and honey... 599, 622
Colors on bees—effect of... 184
Comb and extracted honey on the same colony 365, 579, 739... 753
Comb attached to separators... 673
Comb-building... 615, 912
Comb foundation... 183, 465, 563, 639, 753, 848
Comb foundation in Texas... 619
Comb foundation—stretching... 309
Comb-guide and starter... 256
Comb honey and excluders... 329
Comb honey and natural swarming... 485
Comb-honey hive... 276
Comb honey management... 489
Comb honey in place of queen-cage candy... 596
Comb honey misrepresentation... 229
Comb honey or extracted—which?... 192
Comb honey—production and care of... 81, 101
Comb honey—ripening... 32
Comb honey—shallow or deep supers... 760
Comb honey supers per colony... 309
Combs built—getting... 11
Combs—knowing different... 369
Combs of honey—some heavy... 809
Combs—sorting and overhauling... 429
Combs—value of old... 347
Common bees—perhaps... 968
Conditions conducive to success... 406
Conditions in 1906—changed vital... 917
Conscientious D. catches the queen... 835
Contraction when hiving swarms... 69
Contrariness and obstancy of bees... 722
Controlling increase... 385, 533
Controlling swarming... 383, 490
Convention points and pointers... 143
Convention program... 67, 179

CONVENTION REPORTS—
  Brantford, Ontario... 142
  Chicago-Northwestern... 192
  Connecticut... 426
  Illinois State... 10, 1030
  Michigan State... 302
  Middlesex County, Ontario... 466
  Minnesota State... 28
  National... 533, 560, 579, 599, 621, 639, 659, 762, 836... 884
  Neuces Valley... 305
  Northeastern Wisconsin... 146
  Northern California... 761
  Northern Michigan... 345, 365
  Ontario... 49, 80, 100
  San Antonio... 1034
  San Antonio bee-inspectors'... 1000
  Texas Association... 673
  Western Illinois... 659, 898
  Wisconsin State... 217, 237, 277, 299
  Worcester County, Mass... 10, 425

Conventions... 305, 599
Co-operation among bee-keepers... 733, 806
Corn-plaster—propolis... 916
Corn yield honey?... 1003
Correct nomenclature in bee-keeping... 613
Cotton as a honey-plant... 1035 1051
Cotton honey... 597
Covers of the Latham home-made hives... 447
Cow-peas as honey-plants... 369
Cow-peas in the North... 488
Cows and other farm stock in the apiary... 52
Crop of honey—what I do with... 188
Crosses and hybrid bees... 448
Crosses vs. pure Italian bees... 365, 521
Croton-plant... 623
Cuban and Porto Rican honey and the tariff... 501
Cuban bee-keeping... 322, 428
Cucumbers—pollination of... 750
Cushions—corkdust... 449
Cut-leaved Eriocarpum... 869
Cutting queen-cells to prevent afterswarming 601, 659... 849
Cutting section comb foundation... 753
Cyprian bees... 409

Dadant divisible brood-frame... 348
Dadant methods of honey production... 7, 29, 120, 187, 212, 232, 271, 298, 343, 405, 423, 464, 504, 575, 657, 703, 735, 799, 863, 931... 980
Dadant's few swarms... 387
Dampening sections... 165, 306
Dangers of mixing races... 483
Danzenbaker hive... 389

D
ark honey or sugar syrup in the sections....... 861
Dead bees on the alighting-board.... 213
Dead brood.... 572, 819
Dead colonies—be careful with.... 102
Dealers out—keeping.... 1017

DEATH NOTICES—
  Acklin, J C.... 557
  Dzierzon, Dr. John.... 1031
  Hambaugh, J. M.... 342
  Kandratieff, G.... 210

Definitions and standards of honey. 70, 421, 802, 1051
Demand for honey.... 945
Dempsey super.... 382
Dequeened colonies.... 139, 236
Dewey foundationer.... 532
Died several years after being stung.... 274
Dietetic and hygienic relations of honey.... 639
Difference in colonies—why such.... 817
Dirty boxes—white honey in.... 346
Discouraged—don't become.... 1019
Discouraging honey seasons.... 14
Diseases of bees.... 1032
Disinfectant for tools and hands.... 689
Disinfectants in colonies of bees.... 428
Disturbing bees in the cellar.... 1004
Dividing for increase.... 430, 582
Division-boards—plain and chaff.... 441
Do bees tear down cells containing live queens? 897
Don't let the bees slide.... 967
Doolittle feeder—placing.... 329
Doolittle fixtures.... 641
Drifting—preventing bees from.... 884
Drone-cells for queen-cell cup.... 801
Drone-comb in upper hive-stories.... 257, 782, 897
Drones.... 581
Drones and brood in hive in February.... 256
Drones and swarming.... 447, 722
Drones for queen-fertilization.... 1050
Drones fly farther than workers?—do.... 420, 5 8
Drones of poor stock—limiting.... 813
Drones—providing effective.... 1001
Drones with transferred bees.... 622
Drones with yellow bands.... 867
Drone—the pampered.... 993
Dummies and deep top-bars.... 523
Dysentery among bees.... 305, 785
Dzierzon theory a myth.... 1045

Early preparation for the honey season.... 183
Eating honey.... 328
Economy in bee-keeping.... 299
Educate the public on honey.... 486
Education—plea for a better general.... 294
Eggs?—do bees move.... 84, 164, 218, 307
Eggs in a cell—several.... 309
Eggs in a queen-cell—putting.... 917
Egg—size of bee's.... 689
Eggs that fail to hatch.... 918
Eight-frame vs. 10-frame hive.... 330, 507
Empty combs as anti-swarm protectors.... 722
Empty combs left by dead colonies.... 269
Empty combs.... 782, 865
End-bars and shaking off bees.... 800
Enemies of bees.... 1047
English bees—very old.... 3 6
English sisters—our.... 832
Entrance-blocks.... 848
Entrance-closers for hauling bees.... 25
Entrance for outdoor wintering of bees.... 33
Equalizing brood among colonies.... 309
Exchanging supers—bees and all.... 619
Excluders.... 48, 449
Exhibiting at fairs.... 882
Exhibits—bee and honey.... 749
Experimental programs.... 103
Experiments at Central Experiment Farm, Ottawa.... 82
Exposing to air hastens granulation.... 482
Extra combs of honey.... 961
Extracted and comb honey on the same hive 365, 579, 739.... 753
Extracted honey and its quality.... 345, 424
Extracted honey.... 304, 424
Extracting and feeding back.... 803
Extracting and migratory bee-keeping.... 850
Extracting combs.... 467, 753, 881, 917
Extracting from same combs yearly.... 845
Extracting tent.... 800
Extractor—how to run combs in.... 983
Eyes of the bee.... 786

Facing of hives.... 125, 198, 423, 558
Failure—blessedness of.... 122
Fair and independent.... 98
Fall feeding.... 238
False indigo.... 563
Farm bee-keeping.... 121
Farmers as bee-keepers.... 800
Farmers' Institutes.... 595
Farmers—work in harmony with.... 388
Fastening foundation.... 33, 469, 532
Fastening hives together for moving.... 137, 389
Father Dzierzon and longevity.... 558
Father Langstroth and truthful biography.... 785
February work in the apiary.... 100
Feeder—Coverdale's oilcloth super.... 500
Feeding back honey.... 303, 803
Feeding bees.... 5, 9, 25, 53, 71, 85, 102, 103, 105, 123, 143, 144, 145, 194, 216, 236, 238, 273, 276, 297, 449, 463, 638, 656, 764, 802, 803, 813, 832 1018
Feeding bees a baked hen.... 616
Feeding bees in winter.. 71, 143, 144, 145, 249, 252, 363 686, 688, 723.... 780
Feeding glucose to bees.... 813
Feeding honey.... 102, 900
Feeding honey from dead colonies.... 236
Feeding mulberries.... 273
Feeding sugar syrup.... 688
Fences.... 273, 755
Fence separators.... 429
Fence vs. plain separators.... 159
Fewer bees and better care.... 877
Figwort.... 623
Finding bees in trees.... 849
Finding queens.... 9, 369, 601, 637, 899, 912
Finding wild bees.... 601
Finger—an injured.... 308
First work of bees.... 273
Flavor—honey losing its.... 307
Flight-hole above brood-nest.... 72
Floats for use in feeding bees.... 638, 656
Flowers colored?—why are.... 578
Flowers—what attracts bees to.... 598
Folding faulty sections.... 216
Followers in brood-chambers.... 367, 461
Formaldehyde in molasses.... 488
Formalin.... 84, 233, 256
Foul brood.... 32, 84, 198, 370, 509, 526, 541, 598, 689, 733, 758, 759, 849, 895, 977, 978.... 1032
Foul brood act—amendments to.... 81
Foul brood and adult bees.... 70
Foul brood inspection.... 304
Foul brood inspectors.... 27
Foul brood law—Ontario's.... 446
Foul-brood legislation.... 194
Foul brood—preventing.... 275, 997
Foul brood—States having no.... 429
Foul brood vs. black brood.... 719
Foul brood with queens by mail.... 909
Foul-broody combs—fumigating.... 884
Foundation-cutting.... 3 6, 563
Foundation splints.... 867
Frames.... 48, 166, 218, 387, 529, 552, 802, 803, 845
Frames after uniting-extra.... 803
Frame spacers.... 47, 182, 451, 558, 847, 967
Frame-spacers and spacing frames.... 162
Freight-rate on honey.... 365, 813, 840
Freight-rates—changes in apiarian.... 346
Frozen honey.... 802
Fruit—bees don't puncture.... 653, 757
Fruits in Germany.... 231
Full-weight section.... 370
Fumigating foul-broody combs.... 884

Gasoline for keeping dry combs.... 87
Gasoline treatment for wax-worms.... 449
Gentler bees hardly necessary.... 368
German chunk honey.... 273
German scientists.... 1048
Getting bees into supers.... 583, 671
Getting bees off combs.... 933
Getting combs built to the bottom-bar.... 1050
Getting partly filled sections cleaned.... 32
Giving empty supers below queen-excluders.... 361
Glucose and chlorydric acid.... 72
Glucose and its uses.... 213, 234
Glucose comb honey—no.... 701
Glucose in honey—detecting.... 6, 274
Golden willow honey—taste of.... 689
"Good" candy.... 383
Gooseberry-honey preserves.... 577
Government and apiculture.... 6, 182
Government and Caucasian bees.... 619
Government bulletin on queen-rearing.... 157
Government work in bee-culture.... 877
Grading and packing honey.... 781
Granulation of honey.... 103, 307, 482
Grapes?—do bees puncture.... 750, 861, 980
Gravel to keep down weeds.... 164
Green hellebore.... 408

Handling bees in cold weather.... 341
Handling hives and not frames.... 218
Hanging out—preventing bees.... 309
Hauling bees.... 25, 137
Hawks and clover blossoms.... 702
Hearing of bees.... 9 4
Heat breaking down combs of honey.... 847
Heather not a mint.... 721
Helpful bees.... 328
Hershiser hive-stand and bottom-board... 68, 73, 214.... 326
Hive—best comb honey.... 449
Hive-bottom.... 641
Hive-colors, etc.... 299
Hive-covers.... 329, 349, 488, 641, 758, 802
Hive-entrances.... 5, 97, 214, 375, 524
Hive-entrances and cushions in cellar.... 900
Hive-entrance—size of.... 1004
Hive made with hand-saw and hatchet.... 1045
Hive-making at home.... 1015
Hive of bees struck by lightning.... 285, 408
Hive portico.... 508
Hive-roofs and shade.... 883
Hives.... 48, 216, 256, 276, 299, 302, 468, 503, 509, 601, 671, 758, 951.... 993
Hives and spacers.... 297
Hives and supers—small vs. large.... 503
Hives—bee-keepers making their own.... 963
Hives for wintering and extracting—best.... 527
Hives in long rows.... 329
Hives in which bees have died.... 269
Hive-stand—best.... 839
Hive-ventilation in moving bees.... 848
Hive-ventilators—bees as.... 909
Hiving swarms.... 469, 641, 784
Hoffman frames—metal spaced.... 118, 368
Holy Land bees.... 448, 488, 599
Home honey market.... 581
Home-made hives.... 74, 126, 299
Home-reared queens.... 1005
Home trade for honey.... 997
Honesty in packing and selling.... 781
Honey above the hive-entrance.... 488
Honey and butter.... 13
Honey around edges of flight-holes.... 70
Honey and herb-tea for bee-paralysis.... 360
Honey at San Antonio Fair.... 1034
Honey-bees and alsike.... 52
Honey-bee's creation—object of.... 834
Honey-board—best queen-excluding.... 449
Honey-cakes—Br. Colomban's.... 408, 1034
Honey caramels.... 1034
Honey-comb—a long.... 238
Honey-combs—exchanging.... 102
Honey-dealers and car-loads of honey.... 884
Honey definitions and standards.... 928
Honey-dew.... 123, 686, 987
Honey-dew pure honey?—is.... 582
Honey-dew without aphides.... 553
Honey-exhibit.... 446
Honey-flow and suppression—causes of.... 307
Honey-flow—chilling the.... 752
Honey-flow—conditions affecting.... 184
Honey-flow—how to prepare for.... 635
Honey for burns.... 577
Honey for freckles and liver-spots.... 258
Honey for lemonade—salve and dyspepsia.... 673
Honey from wild mustard or turnip and fruit-bloom.... 369
Honey granulating or waxing.... 981
Honey in California.... 106
Honey in canning fruit and in candy.... 122
Honey instead of molasses.... 346
Honey-judging contests.... 933
Honey-knife—electric-heated.... 1046
Honey left by dead colonies.... 268
Honey-lozenges.... 881
Honey—making two kinds of.... 52
Honey on hives—leaving.... 845
Honey oozing from Mason jars.... 884
Honey-paste for the hands.... 557
Honey-plants.... 231, 449, 530, 879, 915, 1035
Honey-prices stiffening up.... 893
Honey-Producers' League.... 764
Honey-producing bees and queens.... 468
Honey-production.... 7, 29
Honey regions.... 879
Honey ripe before and after sealing.... 656
Honey-section—best size of.... 595, 783
Honey-sources—changeableness of.... 573
Honey that tickles palates.... 293
Honey to keep lips soft and smooth.... 12
Honey—truth about.... 346
Honey—uses of.... 122
Honey-vinegar—making.... 541, 838, 1017, 1047
Honey-yielding plants of Texas.... 189, 328
Honey-yields—difference in colony.... 979
Horsemint.... 325, 803, 918
Horticulturists—bee-talk before the.... 981
Hotel tables—honey absent from.... 103
How many bees shall a man keep?.... 539
Humming of the bees (song).... 397
Hunger swarm.... 867
Hybrid as applied to bees.... 849
Hybrid bees.... 488, 702
Hybrid or cross.... 637, 656
Hygienic honey-soap in France.... 577

Improvements of bee-stock.. 162, 366, 633, 717, 1036
Improving the market for honey.... 142
Inbreeding among bees.... 117
Increase.... 52, 53, 105, 216, 257, 329, 369, 370, 385, 431, 463, 533, 582, 758, 759.... 999
Increase—control of.... 217, 329, 449
Industry—tireless.... 346
Influenza, massage, and soap—honey for.... 918
Inform yourself about bees.... 893
Insect quarantine.... 384
Insects and flowers—relations of.... 635
Insect blunders.... 578
Insect-tester—Prof. Cook's.... 428
Inspectors of apiaries in Canada.... 67
Institutes and conventions as educators.... 595
Intemperate bees.... 306
Introduce fresh blood.... 749
Introducing-cages—disinfecting.... 252
Introducing queens.... 369, 385, 449, 525, 583, 718, 738, 797, 816, 935.... 1001
Ireland—honey season in.... 977
Iron rust in honey.... 348
Italian bees.... 562
Italian-black a hybrid—wouldn't call an.... 341
Italianizing bees.. 236, 308, 389, 489, 723, 900, 918, 968
Italianizing or Caucasianizing bees.... 216
Italian queens—caring for.... 557
Italians—pure 3-banded.... 308, 750
Italians vs. black bees.... 30

Japan—bees and bee-keeping in.... 613
Japanese buckwheat.... 369

Karo corn-syrup.... 893
Keep colonies strong.... 525
Keeping bees on shares.... 310, 951
Keeping choice bees from getting mixed.... 639
Keeping dry combs from moths with gasoline.... 328
Keeping empty brood-combs in summer.... 898
Keeping queens a few days.... 236, 809, 1017
Kind words (poem).... 873

Langstroth frame vs. British standard.... 722
Langstroth gavels.... 599
Langstroth hives and others.... 108
L'Apiculture Nouvelle.... 114
Larvæ at different ages.... 877
Larvæ—bees moving.... 307
Latham home-made hives—covers of the.... 447
Laying of queens.... 598, 883, 950, 1001
Laying workers.... 486, 754, 915
Leaving empty supers in hives in winter.... 1004
Less honey and more price.... 428
Libelous statements and insinuations.... 717
Lies about comb honey.... 884
Linden a valuable tree.... 122
Liquid feed for bees in winter.... 143
Location of apiary.... 142, 237, 348
Longevity of bees and queens.... 103, 596
Long-tongued bees.... 144
Lop-sided flowers nectar-yielders.... 690
Loss of bees from sprayed bloom.... 802
Lubricant for Rietsche foundation press.... 388

Machine-made comb honey.... 464
Mailing queens.... 920
Making money by keeping bees.... 865
Management of bees.. 364, 368, 541, 623, 675, 755, 868
Managing an apiary successfully.... 617
Manufactured wax.... 296
Maple sap—bees working on.... 238
Marketing honey.... 345, 408, 519, 733, 945
Mating and laying of queens.... 14, 558, 839, 950, 1017.... 1051
Mating bees in the mountains.... 1050
Meddling with the bees unnecessarily.... 427
Melilotus for pasturage.... 235
Memory—lapse of.... 759, 847
Merits and demerits of T-supers.... 899
Mesquite for honey and rhyming.... 598
Mexican supper.... 914, 1014
Mice and ants out of hives—keeping.... 430
Mice in hives.... 85, 276 368
Mice and honey-eating.... 308, 403, 481, 508, 917, 983, 1001.... 1035
Mice with bees in summer or winter.... 120
Michigan sister's experience with bees.... 427
Michigan State Fair apiarian exhibit.... 654
Migratory bee-keeping.... 365, 620, 850

Milkweed pollen........328, 674, 690
Miller frame........309, 802
Miller wax-extractor........123
Mints as honey plants........530
Mismated queen........968
Mismating—difference in percentage of........163
Mold in hives in winter........449
Moles—hive or bottles to circumvent........1017
Money made with bees........10 1
Moth-fight........383
Moths and wax........72, 530
Moths—brown-tail and gypsy........304, 508
Moth-worms in section-honey........786
Moved bees do better than unmoved........844
Moving bees....32, 143, 214, 276, 427, 489, 508, 687, 786, 801, 965, 966, 983........1004
Mulberries for bee-feed........643

National and local associations........520
National Bee-Keepers' Association........461, 701
National control of food supplies........506
National convention......31, 52, 366, 401, 673, 749, 910, 961........982
National co-operation of bee-keepers........797
National elections........32, 1014
Neck—honey good for a discolored........408
Nectar brought in?—what is done with........976
Nectar-dearth after fruit-bloom........400
Nectar of flowers........616
Nectar-secretion erratic........1048
Nectar-yielding plants........70
Neighbors—bees stinging the........951
New England sister looks on........306
Newspaper declines to correct apiarian errors...289
New vs. old sections........34
Night-working bees........138
Noise from a colony of bees........722
Non-swarming........846, 868
Non-swarming hive and bees........302, 538, 583, 846
Nourishment of bees........386
Nuclei in twin hives—forming........363
Nucleus method of increase........706
Nucleus method of queen-rearing........343
Number location instead of hives........183
Number of colonies and the location........487
Nuts for the veterans to crack........704

Odor among bees........253
Odor of wild grape bloom........689
Ohio foul brood law........360, 488
Oil-cans—cleaning........297
Oilcloth under hive-cover........787
Old combs for beeswax........309
Ontario bee-inspectors........221
Ontario foul brood act and inspectors........428
Ontario honey-crop reports.....636, 674, 706, 737, 866
Ontario's foul brood law........446
Opposition to bees........966
Orange honey........639
Ordinance against bees........688
Orient—bees of the........849
Out-apiaries—management and locating of..101, 302, 345, 460........722
Over-production of honey........868
Over-shaded bees........1019
Overstocking........1048

Packages for honey........308, 932
Packing bees........125, 371, 563
Packing boxes—winter........819
Packing honey........781
Painting bottom-boards........449
Parting or farewell to 1905 (poem)........1
Pasteboard—bees tearing........594
Patented hives........468
Pear-blight and bees........167
Peppery honey........1019
Performing bee-men at fairs........303
Philippino bees—with variations........1046
Phlox drummondi a favorite........817
Pickled brood........978
Piping of the queen........637
Placing comb in the extractor........866
Plantain juice for bee-stings........882
Plan the work........121
Planting flowers for beauty and the bees........408
Plum potatoes in Germany........347
Poisoned by a pollen-tipped bee-sting........718
Poison—guesses it to be........123
Pollen........656, 835
Pollen-carrying a test for bees........619
Pollen-gathering and temperature........524
Pollen—using to best advantage........505
Pollen in the sections........303
Pollen—its gathering and value........507
Pollen out of sections—keeping........84
Pollen substitutes—feeding........1018
Poppy and hollyhock as bee-attracters........525
Poppy as a pollen-yielder........617
Postal vigilance........523
Poultry-keeping for the bee-keeper........949
Poultry vs. bees........182
Premium list at San Antonio........882
Preparing for winter........369, 866
Preparing in advance for next season....8, 863, 1013
Preventing honey from candying........34
Preventing more than one swarm........276
Preventing swarming....13, 82, 323, 341, 449, 467, 508, 526, 555, 557, 582, 583, 591, 601, 658, 659, 753, 799, 849, 879, 92........999
Prices and qualities of honey........67, 218, 321, 325
Prices of honey and butter........13
Prime swarm a head swarm in England........525
Producers and dealers advance mutual interests 842
Progeny of a golden queen and black drone........486
Progeny—variations in queen........845
Prolificness and honey-production........253
Propolis corn plaster........917
Propolis rags as smoker-fuel........327
Propolis very valuable........122
Propolis—when bees gather........388
Publicity—a bureau of........291
Punic bees........488
Pure-blooded bees........469
Pure food law and honey........1029
Pure-food laws and bee-keepers........70, 1004
Pure Italians less liable to disease........802
Pussy willow (poem)........962
Putting comb foundation in frames in winter...427
Putting on supers........488

Queen—bees that mourn loss of........817
Queen-breeders........45, 97, 165, 186, 381
Queen-cage candy........750
Queen-cages—putting wire-cloth on........552
Queen-cell cups from drone-comb........816
Queen-cells........504, 839
Queen-cells and superseding queens........896
Queen-cells—shaking and removing........365, 449
Queen-cell—which is the bottom end of........900
Queen develops—how the celled........214
Queen-eggs that wouldn't hatch........238
Queen-excluders........303, 508, 509
Queen-excluders and comb honey........105
Queen-excluding zinc........164, 390
Queen-finder—a quick........252
Queen-introducer—never-fail........918
Queen-introducing experience........919
Queenless bees gathering pollen........468
Queenless bees in queen-rearing........444
Queenless bees—starts cells with........915
Queenless colonies........341, 407, 524 761, 917
Queenless swarm will remain clustered—time..344
Queen-rearing and the prevention of increase..485
Queen-rearing experience........819, 848
Queen-rearing—hurrying up........361
Queen-rearing kink........348
Queens....14, 218, 233, 236, 251, 252, 276, 307, 328, 368, 423, 484, 557, 581, 596, 601, 617, 689, 690, 722, 723, 73 , 754, 817, 83 , 862........1004
Queens and drones can't digest pollen........508
Queens by mail vs. by express in nuclei........33
Queens by registered mail........840
Queens—changing........276
Queen's eggs that fail to hatch........846
Queens entering the wrong hive........815
Queens—experience in buying........252
Queens?—how can we rear better........251
Queens in a hive—2 or 3........106, 617
Queens laying after swarming........103
Queens mating more than once........817
Queen-traps........369, 752
Question-box at conventions........32
Quit kicking (poem)........751

Rabbit-foot clover........691
Races of bees........304, 483, 618, 1051
Raspberry honey........897
Rearing queens....215, 305, 343, 363, 385, 468, 483, 525, 531, 562, 582........657
Record swarm........1046
Red clover honey—color of........839
Red-pepper—beeswax and........108
Relation of bees to horticulture........576
Relation of swarming to comb-surface........558
Releasing queen through comb-honey plug........754
Removing bees from sections........690
Removing honey from hives too soon........705
Removing sections from T-supers........465
Removing supers in the fall........846, 900
Rendering beeswax........84, 218, 370, 389, 485
Renewing combs........622
Repressing the swarming impulse........832
Requeening....468, 488, 558, 686, 688, 689, 784, 849, 993
Retailing honey........106
Retention of heat in the brood-nest.441, 482, 529, 615
Returning bunched swarms........786
Rietsche comb foundation press........72 388
Ripe honey........935
Ripeness of honey to granulation—relation of..307
Ripening honey........346, 839
Robbed colony........671
Robber-bees........901, 918, 983
Robber-bees and late swarms........34
Robber or young bees playing........936
Robbing—no sign of........787
Rogues in other trades........233
Roller-machine for uncapping........467
Roof apiary—foreign sister's........881
Roofing for hives........183
Royal jelly—making........935
Ruches and ruchers in Europe........528
Rural clubs........880
Russia—common use of honey in........950

Salads—honey in green........737
Salt and sulphur for foul brood........541
Salt as a cure for bee-paralysis........144
Sampling a town with honey........307
Sampling—the art of........307
San Antonio—trip to........979
San Francisco and a honey-girl student........577
Sap for bees........164
Saving at the wrong place........45
Saving bees intended for killing........786
Scented water to throw on bees........409
Schulz (Mr.) and his candy........384
Scorched honey for spring feeding........85
Second swarms and queenless colonies........84
Section—best size of........847
Section-foundation fastening machine........145
Section-holders........384
Section honey—cleaning........786
Section honey—full weight vs. short weight........252
Sections........127, 306, 341, 370, 384, 467, 755, 845
Sections are filled—how........641
Sections—making at home........309
Sections, separators, supers and section-holders 139........384
Sections, size and weight of........105, 106, 304
Section—top of a........1018
Selection in breeding for eggs in fowls........849
Self-hivers........913
Self-sacrifice—bees' instinct of........229
Selling honey........328, 408, 688, 784, 1013
Separators........366, 384
Serradella as a honey-plant........449
Several eggs in a cell........32
Sex of bees?—what determines kind and... 389, 719, 769........951
Shade and swarm-holder........233
Shade for hives........164, 198, 329, 423, 428
Shaken swarms........185, 389, 759
Shaking bees off their combs........948, 1016
Shallow extracting-frames........753
Shallow hives........308, 951
Shipping and selling section honey........294
Shipping bees and honey...25, 198, 844, 917, 935, 1017
Sister at a Farmers' Institute........141
Sister bee-keeper in the South........507
Sisters prominent in Irish beedom........577
Sisters should talk up honey........949
Size of hives for short honey-flow........85
Size of larva at different ages........1050

SKETCHES OF BEEDOMITES—
  Acklin, J. C........575
  Byer, J. L. and family........327
  Chambers, J. E........934
  Digges, Rev. J. G........655
  Gill, M. A........555
  Green, James A........574
  Hall, J. B........255
  Hambaugh, J. M........488
  McCain, Rev. Robert B........179
  Segelken, Henry........555
  Wood, James Fitts........442

Skunk works around hives........33
Slipshod bee-keeping........637
Small-nucleus system of queen-rearing........531
Smartweed and goldenrod........467
Smartweed and smartweed honey..390, 481, 619, 691
Smoker-fuel........81, 142, 209, 273, 327, 347
Snakes and bees........637
Southern Beedom sister........557
Southern bee-keeper—department for........11
Southern honey-flow—peculiarities of........141
Southwest Texas—some information about........11
Spacing frames and frame-spacing devices........53
Spanish-needle........869
Sparrows........48, 123, 126
Species of bees........15
Spiders in folded sections........467
Splinting frames........615, 739, 760
Spreading brood........198, 421
Spring—among the bees in........232
Spring bee-work........449
Spring dwindling........368
Spring feeding........236, 249
Spring feeding—frames of buckwheat honey for 449
Spring management of bees........235, 346
Spring notes on bees........487
Spring-time—in the (poem)........287
Starters—fastening........469
Starting with bees........329
Starvation among bees........143, 367
Starve brood rather than uncap honey........1050
Starved brood........953
Stearin........296
Stimulative feeding........162, 236, 463
Stinging bug........1047
Sting-trowel theory........341
Sting—use of bee's........257
Stores for winter........217, 249, 622, 969
Strong colonies........636
Sugar-cakes for winter feeding........5
Sugar for queen-cages........552
Sugar not bad for the teeth........849
Sugar syrup for winter stores..142, 216, 764, 819, 935
Sulphur and sugar syrup for bee-paralysis ..137, 307........721
Sumacs as honey-yielders........952
Sunflowers for hive shade........329, 428
Super foundation........967
Super on brood-chamber—fitting of the........31
Super—putting on a second........759
Supers........159, 384, 503, 755, 833
Supers above and under the brood-chamber........919
Supers and separators........753
Superseding of queens.....349, 365, 739, 761, 896, 928, 946........1017
Supers, fences and sections........755
Supers—how to put on........426, 799
Supers—shallow vs. deep........104
Supers—taking off........508, 690
Super-work—experience in........758
Supplant poor queens in the fall........797
Supplies at lower prices?—how can bee-keepers secure........841
Surplus honey........758
Swarm and drone prevention........508
Swarm—self-made........869
Swarm-catcher—home-made........509
Swarm-catching device........216
Swarm-hiving box—Foote's........105
Swarming.....233, 273, 330, 383, 449, 463, 490, 507, 526, 541, 577, 657, 689, 690, 691, 786, 787, 848, 866, 896, 913........1017
Swarming—controlling........143, 328, 329, 401, 409
Swarming habit........235
Swarming impulse—many factors in the........722
Swarming—prevention of........429
Swarming questions........661
Swarm management........1035
Swarms—catching the prodigal........163
Swarms cluster together—when........612
Swarms—forced or shaken........82
Swarms north and south........164
Swarms—returning........639
Swarm that stayed out long........848
Sweet clover......158, 161, 235, 257, 329, 361, 447, 525, 633........1018
Sweet clover a boon to the farmer........137
Sweet clover, cow-peas and Japanese buckwheat 369
Sweet clover for the South........235
Sweet clover honey........32, 105
Sweet clover on blue-grass ground........389
Sweet clover seed........277, 751, 759
Sweet clover—sowing........752
Sweet-eating nation........1029

Taking a swarm from a tree........691
Tank for extracted honey........706
Tariff on comb honey........560
Tar-paper for hive-covering........329
Tarred paper and bees—smell of........33
Taxing bees in Wisconsin........461
Tax—one cent per colony........361
Tearing down cells with live queens........675
Temperature in center of winter bee-cluster 256, 272, 387, 410, 421........834
Temperature of a bee's thorax........1017
Temperature of hives........123, 363
Tents for extracting honey........918
Tested queen defined........862
Testing beeswax........143, 428
Testing swarms before hiving them........93
Texas bee-county—big........689
Texas bee-keeping 27 years ago........831
Texas—beginning bee-keeping in........31
Texas honey imports........982

Texas—honey-yielding plants of.....189, 328
Texas horsemint for Georgia..... 325
Texas mesquite (poem)..... 448
Texas then and now (poem)..... 83
Three-story hives and queen's laying..... 722
Tiering two weak colonies for winter..... 760
Tolerating old queens..... 817
Tomfoolery about bees..... 524
Top-bars..... 523
Townsend super-plan..... 341
Transferring bees.....276, 349, 409, 488, 622, 671, 968
Transferring combs..... 862
Transferring eggs in queen-rearing..... 753
Transferring larvæ.....563, 583
Traveling by flying-machine.....1017
Travel-stained sections—painting..... 341
Treatment for swarms..... 369
Trouble among the bees..... 346
Truth about honey..... 346
T-super as Dr. Miller uses it..... 783
T-super and 4¼ sections..... 642
T-supers.....271, 278, 307, 541, 641, 703, 995, 998
T-supers and quilts..... 429
T-supers and sections..... 349
T-supers by gravitation—emptying.....388, 468, 615
T-super sticks.....1020
T-supers vs. wide frames..... 947
T-tins..... 967
Turning the bees into the supers..... 913
Turpentine to get rid of ants..... 328
Two-pound vs. 1-pound sections..... 164
Two queens in a hive..... 307
Two-story colony—a..... 935

Unadorned flowers.....1036
Uncapping machine..... 304
Uncap stores—bees slow to..... 368
Unfinished sections.....9, 145, 935
Unfinished sections as bait using..... 444
Unfinished sections cleaned out—getting..... 70
Uniform weight of sections of honey..... 633
Uniting colonies.....308, 752, 803, 819 867, 945
University extension..... 595
Untested and select untested queens..... 368
Using combs with honey from dead colonies.... 370

Value of bees to blossoms..... 469
Ventilation of hives.....752, 817, 868
Ventilation—raising the hive for more..... 409
Ventilation space when moving bees..... 309
Vicious bees—dealing with..... 137
Virgin queen..... 686
Visit to R. H. Smith..... 466

Wandering swarms and bee-lawsuits.....1050
Warning beforehand..... 46
Water as a swarming discourager..... 526
Water for bees.....291, 998
Watering bees.....832, 918
Watering place for bees.....408, 509, 596
Wax—bleached..... 296
Wax-cakes—crackless..... 87
Wax-extracting methods.....638, 659, 849
Wax-honey experiments..... 13
Waxing the floor..... 801
Wax—manufactured..... 296
Wax-moth..... 214
Wax-press—running a..... 234
Wax-rendering processes..... 234
Wax-worms and combs.....308, 449, 867
Weak colonies—providing stores for..... 197
Weak colony over a strong one.....369, 421, 429, 508, 582, 598, 619, 848..... 849
Weather and the honey-flows..... 387
Weather forecasts.....69, 221
Weeds—keeping down..... 164
Well-to-do?—how many colonies to become.. 880
What bees do with honey..... 14
What can be done to make our Association more useful to bee-keepers?..... 82
What line of work shall we take up?..... 254
What will produce honey?..... 144
Wheelbarrow—bee-keepers'.....1016
Whipped honey..... 212
White honey in dirty boxes..... 346
White or yellow sweet clover..... 601
Why bees do better.....1017
Why bees don't store honey..... 185
Why did the bees die off?..... 239
Why did the bees leave?..... 900
Wide frames vs. T-supers.....273, 833
Wild grape and other bloom..... 524
Willows and bees..... 529
Willows—planting..... 369
Windbreak—growing a quick..... 306
Winter-cases..... 145
Winter flights of bees.....446, 785
Wintering a nucleus..... 738
Wintering bees....29, 52, 85, 99, 140, 184, 198, 213, 529, 6 1, 687, 690, 817, 834, 900, 911, 913, 964, 968, 984, 985.....1020
Wintering in a bee-cave.....85, 935
Wintering nuclei over a strong colony..... 847
Winter protection of hives..... 864
Winter space too crowded with bees..... 388
Winter stores,.....273, 819, 867, 900, 935, 1004
Wiring frames...52, 87, 257, 365, 449, 468, 490, 615, 760
Wiring or splinting shallow frames..... 760
Witch-hazel a late bloomer..... 23
Woman's determination and success..... 141
Women bee-keepers not trouble-makers..... 466
Women bee-keepers in Austria.....1034
Women should keep bees—why..... 933
Wood or metal splints and wire..... 639
Wood separators—cleaning..... 123
Wood-splints instead of wire in combs..... 409
Worker-comb—value of..... 659
Worker reared in queen-cell..... 723
Working intelligently with bees..... 428
Work in the apiary—early spring..... 197
Workshop struck by lightning..... 557

Yellow-banded bees—purity of..... 404
Yellow sweet clover.....832, 881
Yon Yonson's trip to the moon..... 86
Young bees become field-bees—when..... 323
Young bees work afield?—would very..... 209

Zinc excluders..... 468

ILLUSTRATIONS

Abbott, Emerson T..... 763
Acklin, J. C..... 575
Adams, Frank P..... 69

Apiary of—
- Andrews, L. L..... 180
- Bergstrand, Chas. O..... 602
- Bingham, T. F..... 957
- Bleech, G. A..... 793
- Blocher, D. J..... 857
- Brey, P. W..... 1009
- Brimmer, A. A..... 133
- Brooks, W. I..... 477
- Carr, E. G..... 857
- Chevalier, C. G..... 437
- "Colorado," Miss..... 818
- Diboern, C. H., and home..... 497
- Dickinson, W. H..... 225
- Diller, Orpheus—in winter..... 317
- Doty, H. A..... 245
- Ferris, A. K..... 245
- Giles, A. B..... 41
- Gulden, L. M..... 21
- Harlan, C. H., and home..... 205
- Jenkins, S. N..... 745
- Johnson, G. H., and swarm..... 610
- Johnson, J. E., and home..... 93
- Kittinger, Frank..... 417
- Latham, Allen..... 61
- Lengst & Koenig..... 906
- Little, H. S..... 989
- Lowe, Wm. B..... 61
- McCain, R. B..... 173
- McGuffin, J. H..... 825
- Merrill, R. E..... 941
- Mottinger, S. L..... 377
- Norton, E. H..... 754
- Pantchefe, D.—Bulgaria..... 153
- Patterson, J. L..... 681
- Patzner, W..... 21
- Pettit, S. T..... 388
- Porter, Eugene U..... 41
- Reddish, W. J..... 654
- Redmond, J. H..... 957
- Reed, J. M..... 703
- Rice, O. K..... 265
- Robinson, T. P..... 925
- Root, Wm. H..... 825
- Rushton, H...... 941
- Schaffner Bros..... 337
- Schultz, Otto..... 502
- Seward, . N..... 317
- Shawler, T. L..... 41
- Shawler, Mrs. T. L..... 41
- Smith, Jay..... 973
- Smith, W. L..... 270
- Stanley, Arthur..... 133
- Stenabaugh, Ellis S..... 989
- Wagner, F. M., and feeding arrangement. 437
- Ward, John "Logwood Apiary"..... 133
- Whitson, L. L..... 697
- Wiggins, F. C..... 905
- Williams, W. S..... 713
- Yates, A. W..... 550

Armful of bees..... 285
Arnd, H. M..... 838
Aspinwall, L. A.....538, 1041
Baluchistan, souvenir card..... 634
Basswood trees in bloom (Dr. Miller's)..... 629
Bee-hive struck by lightning..... 285
Bee-inspectors—two Texas..... 275
Bee-ranch in Arizona..... 973
Bevins, Edwin..... 889
Binding bee papers..... 119
Birthplace of C. P. Dadant..... 7
Bottom-board and false bottom (Dr. Miller's) 642
Bottom-board and hive-stand—Hershiser's. 73
Bull dog out of a terrier..... 146
Byer, (J. L.) and family..... 327
Chaff division-board of G. C. Greiner..... 443
Chambers, J. E., and helpers..... 934
Dadant division-board..... 405
Digges, Rev. J. G..... 649
Divisible brood-frame Dadant..... 232
Divisible brood-frame—Greiner's..... 343
Doll family (part of) and factory..... 357
Dzierzon's hive..... 1032
Dzierzon's home for 95 years..... 1032
Dzierzon, Dr. John..... 1025
Eaton, Dr. E. N..... 640
Extracting house of M. H. Mendleson..... 807
Feeder for spring feeding..... 402
Foundation fastener—Dewey's..... 532
Frame spacers—Alpaugh's..... 53
Frame spacer—Dayton's..... 298
Frame spacer of H. A. Smith..... 559
Frame spacer—Wagners'..... 47
France, N. E..... 837
Gill, M. A..... 561
Green, James A..... 579
Greiner's (F.) honey crop..... 159
Greiner's (F.) supers..... 160
Hall, J. B..... 255
Hambaugh, J. M..... 477
Hauling bees 200 miles in Texas..... 1069
Hive—Dadant's..... 344
Hive-roof for shade and ventilation—Dadant 736
Holtermann, R. F..... 6 0
Home-made hive—Latham's.....79, 80
Honey exhibit of Aaron Coppin..... 477
Honey exhibit of Chas. W. Sager..... 153
Honey exhibit of R. H. Smith..... 456
Honey-knife—electric heated..... 1046
Jenkins, Mr. and Mrs. S. N..... 745
Johnson, J. E.....377, 889
Kandratieff, G..... 210
Langstroth gavels..... 589
Latham, Allen..... 417
Lima-bean ranch in California..... 777
Marsh, Rev. D. D.....417
McCain R. B..... 173
McCain, (R. B.) and crop from one colony. 181
Mendleson, M. H..... 225
Milkweed in bloom..... 629
Mistake (colored)..... 239
Mont-Jovet's Alpine Apiary..... 113
Muth, Fred W..... 843
Nest of "Weevillum Beelzibuvias"..... 618
Nucleus hive of J. L. Strong..... 363
Over the valley from C. P. Dadant's birthplace..... 7
Patterson Brothers..... 925
Pettit, Morley..... 51
Pettit, S. T..... 377
Phillips, Dr. E. F.....6, 664
Queen-rearing apiary of Mont Jovet..... 925
Reynolds, Alvah A..... 889
Scholl, Louis H..... 517
Seaman, (A. R.) and son..... 317
Secor souvenir postal card..... 26
Segelken, Henry..... 560
Self-hiving diagrams..... 913
Sibbald, H. G..... 49
Smith, J. Arthur..... 417
Smith, W. L..... 265
Souvenir postal card—Benton's..... 270
Stachelhausen, L..... 534
Stoflet (Frank) and apiary..... 153
Stone, Jas. A..... 225
Super of W. W. Dempsey..... 382
Swarm catcher of S. G. Kilgore..... 509
Sweet clover in bloom..... 629
Sweet clover—white and yellow..... 161
Tank for storing honey—Dadant's..... 658
Taylor, R. L..... 769
Top-bar cross-section..... 33
Trinder, Edwin..... 183
T super—Dr. Miller's.....265, 642
Townsend, E. D..... 540
Washington apiary from north..... 1
Wheelbarrow for extracting—Dadant's..... 576
White, Frank B..... 554
Whitney's (Wm. M.) little girl..... 973
Wilder, J. J..... 969
Wood, Jas. F..... 437
Woods, E. D..... 889
Worcester (Mass.) bee-show..... 946
Yon Yonson and daughters..... 86

CORRESPONDENTS

Abbott, Emerson T. 5, 762
Abbott, O. L. 15
Abel, Mrs. Mary Hinman, 213, 234
Adams, Frank P. 368
Adams, Geo. W. 106
Adema, Walter M. 770, 920
Ahlen, John, 469
Aikin, R. C. 179, 293
Allen, A. C. 238
Alley, Henry, 127, 186, 404, 444, 469, 484, 531
Alley, Mrs. Henry, 306
Alogsino, Br. 953
Amos, Mrs. A. L. 234, 447, 672, 722, 832, 881
Anderson, Grant, 257, 448, 1035
Anderson, J. L. 87
Anderson, Swan, 643
Andrews, Elizabeth, 1002
Arbuthnot, Will, 390
Arkansas, 869
Armstrong, E. S. 238
Armstrong, J. C. 703, 739, 783, 998
Arnd, H. M. 839
Arnold, Chas. E. 445
Askew, W. G. 48
Aspinwall, L. A. 538
Atwater, E. F. 140, 162, 384
Austin, Kate V. 408

Baker, James H. 165
Banker, Fred, 450
Barker, D. E. 674
Barnard, H. C. 325, 387, 486
Bartlett, Ira D. 345, 365
Bartz, A. C. F. 643
Bates, W. K. 623
Beatty, I. M. 350
Bechly, Fred, 87
Becker, C, 390
Bell, L. B. 506
Bender, Charles, 674
Benson, C. H. 469, 913, 985
Benton, Frank, 250, 270
Bergstrand, C. O. 602, 674
Best, Henry, 126
Beuhne, R. 594
Bevins, Edwin, 9, 145, 489, 657, 799, 849, 896
Bingham, T. F. 962
Black, H. D. 411
Black, Mrs. J. D. 802
Black, S. N. 803
Blackman, G. S. 370
Blaker, Rev. Chas. D. 28, 575
Blank, Dr. J. T. 787
Bleech, G. L. 798
Blocher, D. J. 862
"Bloomfield," 485
Blow, T. B. 613
Blunier, Dina, 70
Boelte, Dr. Phil Max, 563, 769
Bohrer, Dr. G. 278, 464, 483, 526, 594, 674, 770, 815
Booknaw, Jenuie, 507
Bowden, W. H. 787
Boynton, D. B. 145
Branch, Mrs. Carrie, 32, 51
Brethauer, J. 446
Brey, P. W. 1014
Brite, W. T. 557
Brooks, W. I. 482
Brown, A. F. 707
Brown, Mrs. Chas. 673
Brown, C. L. 165
Brown, Mrs. D. W. 367
Brown, F. E. 768
Brown, W. J. 107
Bryant, E. J. 707
Buck, Mrs. Orville, 673
Bunch, C. A. 165, 2 0
Burke, Mrs. W. M. 386
Burns, A. J. 34
Burns, C. C, 953
Bussey, E. L. 236
Byer, J. L. 99, 125, 32 389, 882, 933

Camby, E. S. 769
Cameron, L. A. 390

"Canada," 442, 593
Candler, Mathilde, 274
Cantine, Mrs. D. L. 347
Cantrell, J. T. 623
Carr, E. G. 862
Carr, E. T. 804
Cary, W. T. 410, 770
Chambers, J. E. 935, 966
Cherry, Thos. M. 820
Chevalier, C. G. 442
Chinn, Richard, 105
Cibler, Jas. T. 691
Clark, Harvey, 146
Cleary, Wm. 54, 200, 469
Cline, John, 105, 563
Clum, F. D. 523
Coates, John, 769
Collins, J. H. 54, 431
"Colorado," Miss, 597, 818, 981
Comstock, Anna B. 865, 934
Condy, Joseph, 275
Cook, Prof. A. J. 15, 139, 231, 294, 383, 463, 502, 530, 595, 879, 998, 1047
Cooler, C. W. 219
Cooper, J. M. 557
Cooper, Wm. L. 104
Coppin, A. 469, 482
Coverdale, Frank, 501
Coyle, W. R. M. 675
Crane, J. E. 6, 521, 685
Creech, J. 598
Cronkleton, E. J. 658
Cummings, T. Celeste, 141
Cutlip, A. 350
Cutter, Elsie A. 12, 31, 142, 637, 688, 981

Dadant, C. P. 7, 29, 100, 120, 187, 212, 218, 232, 271, 298, 303, 342, 343, 405, 423, 464, 504, 553, 575, 657, 703, 719, 735, 798, 799, 863, 911, 930, 931, 980, 1030, 1047
Darrow, Chas. M. 489, 623
Daum, F. P. 390
Davenport, C. 185, 252, 401, 603
Davis, Freeman, 35, 238, 985
Davis, J. C. 563
Davis, John M. 489
Davis, W. J. 1st, 323, 563
Day, F. L. 99, 344, 596
Dayton, C. W. 188, 297, 310, 451, 503, 613, 868, 931, 999
Dewey, E. H. 145, 490, 532
Dexter, F. Z 901
Dickinson, Emily, 12
Dickinson, W. H. 230
Diebold, A. J. 623
Diefendorf, E. W. 165, 370, 563, 869
Diller, Orpheus, 322
Doolittle, G. M. 8, 46, 120, 232, 238, 272, 296, 363, 4 3, 444, 463, 5 5, 529, 555, 615, 635, 735, 755, 815, 880, 948, 977, 979, 1043
Doty, H. A. 251
Drexel, Frank H. 996, 997
Duby, H. S. 450
uncan, Mary L. 617

Daton, Dr. E. N. 523, 640
Edgeworth, W. C. 127, E239
Edson, Charles, 125
Eggenberger, C. 310
Ellis, Dr. W. H. 200
Elmore, L. W. 310
Emmons, Dr. Davis R. 847
Erickson, A. G. 583

Feeback, W. S. 331, 803
Ferris, A. K. 251
Ferris, Mrs. A. K. 122
Findlay, Wm. 707
Fisher, James H. 238
Fisher, Ralph P. 901
Fisher, W. 803
Fixter, John, 82
Flick, H. H. 769
Foote, A. F. 106
Fox, Elias, 12
France, N. E. 322, 461, 837
Freeman, A. J. 145
Frey, Mrs. F. Wilbur, 428, 577, 617
Fulford, E. A. 993

Gamash, James, 125
Gander, Harry W. 920
Garwood, Alice P. 1018
Gates, Burton U. 946
Gathright, W. C. 816
Getaz, Adrian, 72, 211, 278, 295, 423, 528, 755, 834, 912, 1032
Gill, M. A. 67, 562
Gillilan, S. W. 569
Giraud, Freres, 97
Glessner, Mrs. F. M. 638
Goodner, Dr. J. G. 54, 106
Goodnow, V. 411
Green, Bert, 371
Green, J. A. 575, 580, 862, 895
Greener, T. R. 525
Greiner, F. 159, 331, 343, 469, 485, 616, 643, 833
Greiner, G. C. 294, 443, 556, 920, 963
Griffin, O. J 331
Gross, Gustave, 469
Group, J. F. 54
Guernsey, C. S. 87
Gulden, L. M. 27
Guthrey, E. G. 200, 623, 691

Halstead, E. W. 322
Hammond, L. A. 853
Hanegan, Leo F. 521
Hanselman, E. H. 691, 868
Hansen, Henry, 350
Hanson, V. A. 54
Happel, Julius, 583, 675, 723, 787, 868, 969
Harlan, C. H. 165, 210
Harris, W. D. 105
Hasty, E. E. 106, 390, 563, 769, 787, 862
Hatch, C. A. 218
Heagy, Dr. J. H. 816
Healy, Wm. J. 390
Heist, Geo. 787
Henry, Mrs. Inez J. 467
Herman, F. G. 235, 752, 866
Hershiser, O. L. 68, 73, 292, 661
Heurkens, Herman, 410
Hildreth & Segelken, 561
Hill, H. E. 255
Hill, J. K 525
Hillebrandt, H. F. 278
Hitt, Samuel H. 278
Hodges, Geo. 105
Holtermann, R. F. 25, 342, 389, 620
Honaker, Mrs. Millie, 182, 301, 386
Hopsecger, Chas. M. 804, 901
Hotze, Mrs. Otto C. 274, 752
House, Howard H. 165
Howard, Geo. A. 785
Hunsberger, A. C. 643
Hurley, T. S. 602
Hutchinson, Edwin, 675
Hutchinson, W. Z. 25, 573, 717, 945

"Indiana," 849
Irvine, Sr., Walter, 410
selin, Sebastian, 490, 820

Jackson, Joseph, W. 35
Jeffrey, Robert A. 804
Jenkins, S. N. 751
Jentgen, Nick, 968
Job, C. 86
Johnson, Geo. H. 614
Johnson, J. E. 99, 252, 542, 635, 659
Johnson, J. W. 707
Johnson, John W. 691
Johnson, V. S. 623, 675
Johnson, W. 107
Jones, C. O. 346
Juel, F. P. 469

Kauffman, E. B. 868
Keeler, T. H. 739
Kelly, Frank, 506
Kennedy, John, 451, 757, 980
Kilgore, S. G. 410, 509
King, John, 739
Kirkpatrick, Geo. H. 424
Kittinger, Frank, 422
Knight, James, 228
Knoll, E. 346
Koch, Aug. F. 127, 482
Kretchmer, E. 576
Kropp, Jacob F. 804

Lamb, Mrs. Jas. 328
Lamkin, Lewis, 1005
Latham, Allen, 67, 74, 299, 362, 422, 504, 1015
Lathrop, Harry, 217, 237, 277, 278, 299
Laws, W. H. 140
Lengst & Koenig, 910
Leslie, Melvin, 675
"Lewis," 542
Lewis, F. Jay, 106
Lieawful, Baron M. 835
Lincoln, C. M 145
Lindsey, B. F. 54
Little, D. G. 803
Little, H. S. 994
Lochman, W. A. 643
Lockwood, Fred, 145
Long, Irving, 691, 1005
Lovesy, E. S. 257
Lowey, R. 101, 213, 274
Lyon, Rev. D. E. 250

Macdonald, D. M. 26
Mack Mrs. L, 70
Maeder, H. F. 692
Maguire, T. 685, 99 4
Mangus, C. A. 371
Marrs, D. F. 126
Marshall, Perry, 443
Massie, T. H. 783
Massie, T. K. 370
Matson, L. 145
Matson, S. L. 563
Matthews, Wm. 623
Mears, Mrs C. D. 142
Measer, J. J. 770
Medkiff, L. C. 769
Meise, F. A. 292
Mendleson, M. H. 483, 489
Merriam, G. F. 483, 489
Merrill, R. E. 947
Miles, E. S. 920
Miller, Arthur C. 253, 829, 864, 912, 977
Miller, Dr. C. C. 29, 209, 271, 421, 481, 614, 615, 653, 814, 930, 947, 985, 995
Miller, F. J. 82
Miller, Jas. L. A. 165, 804, 848
Miller, S. E. 321
Millikin, Dr. 600
Mills, W. H. 563, 634
Mintle, J. R. 675
Moe, H. H. 200, 237, 964
Mohler, Philip, 87, 849
Moloney, Geo. J. 820
Montfort, O. B. 820
Moran, Geo. E. 769
Morrison, W. K. 1032
Mottinger, S. L. 383
Mull, A. T. 200
Munro, W. 862
Murry, H. D. 581
Muth, Fred W. 844
McBride, A. J. 331, 557, 804
McCain, Robert B. 28, 181, 526
McClaskey, E. L. 390
McColley, R. L. 350
McCoy, Edw. 868
McCradie, R. 166
McCready, W. F. 525, 596
McDonald, G. A. 489
McEvoy, Wm. 953
McFarland, Prof. R. W. 594, 599
McGuffin, J. H. 830
McGuire, G. W. 511, 687
McIntyre, Flora, 577
McIntyre, J. F. 769
McKay, John J. 674
McMurdo, R. M. 1016
McNeal, W. W. 527

Neuman, Cecil H. 310
Noble, Sr., A. H. 623
Nolan, Denis, 101
Norris, G. W. 707
North, Lyman, 787
Null, Mary E. 706, 899, 696
Oliver, A. L. 390, 643
Opsata, Carl, 292
Ott, Arthur, 215

Pagan, E. V. 787
Patterson, J. L. 469, 686 868
Patton, A. E. 787
Pawletta, D. J. 469, 723, 968
Peck, B. W. 105
Peiro, F. L. 643, 868
Perry, Helen, 103
Peters, John J. 739
Peterson, O. J. 769
Pettit, Morley, 83, 98, 302, 1031
Pettit, S. T. 388, 832, 897
Petzold, H. 126
Pharr, John W. 239
Philbrook, H. S. 184, 383, 490
Phillips, Dr. C. S. 235
Phillips, Dr. E. F. 45, 668, 862, 894
Plumb, J. C. 915
Plumb, Mrs. J. C. 122
Porter, Eugene U. 46
Pouder, Walter S. 595
Pouppirt, Thomas, 769
Prankard, Mrs. G. P. 785
Price, M. D. 257
Priester, Julius, 469
Priestman, W. H. 691
Pryal, W. A. 187, 331 382, 402, 623, 656
Putnam, W. H. 842

Quirin, H. G. 511, 707

Rails, W. H. 145
Randall, Mrs. Fannie J. 447
Raught, A. P. 804, 869
Reddish, W. J. 654
Redmond, John H. 962
Reed, Geo. A. 87
Reed, J. M. 798
Reichert, F. J. 87
Reid, Ernest W. 701
Rey, John M. 804
Rice, O. K. 218, 270, 563, 787, 968
Richter, E. E. 489
Ricketts, L. V. 252, 595
Ridley, J. 848
Roat, James, 397
Roberts, R. J. 15
Roberts, Wm. G. 126
Robinson, T. P. 803, 930
Roller, John, 691
Root, E R. 574
Root, W. H 830
Ross, Jr., R. B. 119, 238
Rowan, J. D. 901
Rowsome, H. R. 341
Rozell, Albert, 675
Ruggles, W. Z. 165
Rumler, Geo. M. 542
Rushton, H. A. 947
Russell, C. R. 10, 26, 200, 425
Russell, H. L. 557

Sackville, Jas. 983
Sager, Chas. W. 739
Sager, Grace W. 158
"Santa Anna," 1051
Schmidt, B. F. 126, 1005
Scholl, Louis H. 189
Schoppenhorst, H. A. 107
Schultz, Wm. 350
Seaman, Rev. A. R. 322
Secor, Eugene, 1, 292, 729, 962
Segelken, Hy. 555
Seifert, Geo. M. 769
Selser, Wm. A. 119
Semmens, John S. 106, 869
Sepal, 769
Seward, C. N. 323
Shaw & Co., J. W. K. 310, 868
Shawler, T. L. 46, 364, 542, 674, 691
Shutt, Prof. Frank T. 275, 307
Sibbald, H. G. 49
Simmons, J. W. 486
Sims, John L 707
Sladen, F. W. L. 574
Smith, H. A. 126, 166 559, 598, 721, 877, 916
Smith, Jay, 978
Smith, J. Arthur, 426
Smith, L A. 97, 238
Smith, L. B. 427, 465, 597, 618, 705, 801, 817, 915, 952, 1019, 1035
Smith, R. H. 81, 466
Smith, S. B. 450
Smith, W. L. 270
Snowberger, A. H. 509
Soderlund, Noack, 310
Soper, W. D. 769
Spillman, W. J. 235
Stachelhausen, L. 31, 139, 323, 326, 348, 387, 407, 535
Stanley, Grant, 325, 542, 687, 784, 820, 834, 863, 914, 964, 997
Stark, Henry, 769
Stenabaugh, Ellis S. 994
Stewart, J. C. 331
St. George, W. S. 878
Stine, J. W. 563, 583, 869
Stoflet, Frank, 158, 410, 563
Stolley, Sr., Wm, 30, 48, 54, 159, 385, 451, 511
Stone, Jas. A. 11, 118, 270, 554, 1031
Stotts, John, 350, 787
Strang, H. F. 145
Strong, Elsie, 71
Strong, J. L 963
Strong, Kenneth, 71
Sturges, E. F. 54
Suddith, L. H. 185
Sueltenfuss, Otto, 469
Swan, A. W. 402, 469
Taylor, R. L. 766
Thies, C. J. 691
Timmerman, A. H. 350
Todd, Chas. L. 448
Toepperwein, Udo, 878
Townsend, E. D. 304, 540
Trevorrow, M. B. 103
Tucker, E. 470
Tyler, Fred, 145
Vanish, Peter, 461
Varney, Edgar, 675
Vaught, Isaac, 106
Verrett, Jacques, 126
Victor, W. O. 822
Vincent, Henry, 953
Voight, C. H. 146
Wagner, F. M, 370, 442
Wagner, K. H. 47
Wainwright, Mrs. Catherine, 122
Wair, C. H. 643
Walker, Col. H. J. O. 229
Waschenberger, Geo. E. 643
Welden, T. A. 200
Wells, G. H. 145
Werner, Louis, 920
West, Robt. 429
"West Virginia," 719, 869
Wheeler, Frances E. 274, 784
Whitaker, J. B. 258
Whitcher, M. D. 410
Whitcomb, Geo. B. 54, 218, 583
Whitney, Wm. M. 54, 623, 675, 750, 879, 978
Whitson, L. L. 702
Wiggins, F. C. 257, 603, 804, 910
Wilcox, G. W. 787
Wilder, J. J. 141, 557, 754, 831, 898, 966, 1020
Wilkinson, G. McC. 691
Williams, E. E. 15
Williams, John, 507
Williams, Susan E. 1002
Williams, W. S. 718
Willson, H. P. 54
Wilson, W. L. 674
Winkler, Wm. 787
Winter, Rev. H. A. 301
Wiseman, Dr. W. A. 542
Wolfe, James H. 985
Wood, Delos, 342
Woodman, A. G. 6
Woods, E. D. 898
Worthington, J. T. 953
Wykoff, H. G. 390
Yates, A. W. 324, 554
Yonson, Yon, 87
Young, J. E. 490
Young, W. J. 26, 54, 70, 501
Zoll, C. 331

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Honey and Beeswax

Chicago, Dec. 7.—There is the usual dullness in the honey-trade at this date owing to most of the retailers having stocked up sufficiently to carry them over the holidays; but the stocks in the hands of the trade generally are below the normal; hence prices are firm at 15@16c for No. 1 to fancy white comb, with off grades at 1@2c less: amber grades dull at 10@12c. Extracted white, firm at 8c for clover and basswood; ambers, 6½@7½c per pound. Beeswax, 30c.
R. A. Burnett & Co.

Kansas City, Dec. 6.—The demand for comb and extracted honey is good, receipts light. We quote: Fancy white comb, 24 sections, per case, $3,25; No. 1, $3.00; No. 2 and amber, $2.75. Extracted, white, 7@7½c; amber, 6½@7c. Beeswax, 27c.
C. C. Clemons & Co.

Cincinnati, Nov. 8.—The market on comb honey seems to be a little quiet; No. 1 sells wholesale for 14½c; retail by the case, 16c. Extracted firm; light amber in barrels, 6c; in cans, 7c; white clover, 8½c. Beeswax, 30c.
C. H. W. Weber.

Philadelphia, Nov. 8.—While the supply of comb honey is equal to the demand, large quantities of comb honey having arrived in the market in the last few days, the price still remains high. The outlook, however, is that when the season advances and the bee-keepers ship more of their crop to the market, the prices will be a little weaker. We quote: Fancy white comb honey, 16@18c: No, 1, 14@15c; amber, 11@13c. Fancy white extracted, 7½@8½c; light amber, 6½@7c.

We are producers of honey and do not handle on commission.
Wm. A. Selser.

New York, Dec. 3—Comb honey is in good demand, and No. 1 and fancy white stock seems to be pretty well exhausted. Buckwheat is in sufficient supply, also off grades of white, to meet all demands, but there is no overstock as yet. We quote fancy white at 15c; No. 1 at 13@14c; No. 2 at 12c; buckwheat and amber at 11c per pound, according to quality and style of package. Extracted is firm at unchanged prices. California white sage, 8c; light amber, at 7@6½c; buckwheat, 6@6½c. Beeswax steady at 30c.
Hildreth & Segelken

Denver, Oct. 20.—All desirable lots of white comb honey in double-tier cases have now been shipped out of this State, leaving only a few cars of single-tier cases. The quality of this year's crop was fine, better than for several seasons. We quote our local market as follows: Strictly No. 1 white, per case of 24 sections, $3; ordinary No. 1 and off grade, $2.50 to $2.75. Extracted, white, 6¾@7½c. Beeswax, 24c for average yellow delivered here.
The Colo. Honey-Producers' Assn.

Cincinnati, Dec. 7.—The honey market is in a healthy condition, particularly extracted honey, the demand being better than one year ago. This is probably due to the excitement among those holders who are trying to inflate the prices. We quote amber extracted honey in barrels at 6@7c, according to the quality. Fancy table honey in barrels and 60-lb. cans at 8@9c. The demand for comb honey has decreased, somewhat, owing to the season of the year when the sale of that article suffers. Our prices of fancy white comb honey, in a wholesale way, is 15@16c. Choice yellow beeswax, 30c, delivered here.
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Indianapolis, Nov. 15.—Fancy white comb brings 16@17c readily; No. 1, white, 2c less per pound; the demand is not supplied, but higher prices would decrease the demand. Best grades of extracted honey bring 8@9c. Good average beeswax sells here at $33 per 100 pounds.
Walter S. Pouder.

Toledo, Nov. 30—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings in a retail way 16c; extra fancy, 17c; No. 1, 15c; buckwheat, 15c. Extracted white clover in barrels brings 7@7½c; cans the same. Beeswax, 26@28c.
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Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. Miller.

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